

AS39029 QPL and Glenair Commercial

# High-Performance Connector Contacts

United States ■ United Kingdom ■ Germany ■ France ■ Nordic ■ Italy ■ Spain ■ Japan

First Edition • January 2011

# Aircraft On Ground? Need Contacts Now? AS39029 In Stock (Specials Too!)



1211 Air Way  
Glendale, California 91201-2497  
Telephone: 818-247-6000 · Facsimile: 818-500-9912 · E-mail: [sales@glenair.com](mailto:sales@glenair.com)  
United States · United Kingdom · Germany · Nordic · France · Italy · Spain · Japan  
[www.glenair.com](http://www.glenair.com)

Intro

**Introduction**

*Complete Overview of Qualified and Commercial Contacts*

Intro

A

**AS39029 Crimp Contacts**

*M39029 Contact Selection Guide  
Electrical Pin and Socket Crimp Contacts*



A

B

**High Performance Shielded Contacts**

*Shielded Contact Cross Reference  
Coaxial  
Twinax  
Quadax  
Other Shielded Contacts*



B

C

**Fiber Optic Termini**

*MIL-PRF-29504 for D38999  
MIL-PRF-28876  
Series 80 Mighty Mouse  
Special Size #16 COTS Front Release  
ARINC Type  
Glenair High Density (GHD)  
GFOCA  
Next Generation NGCON*

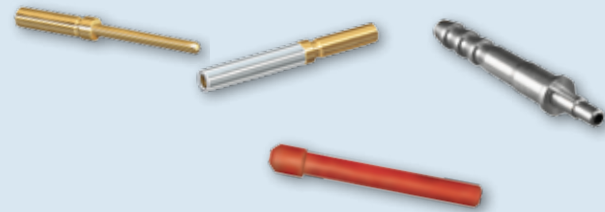


C

D

**Special Purpose Contacts**

*Series 80 Mighty Mouse #23 Contacts  
High Power Contacts  
Sealing Plugs  
Pneumatic Contacts  
Thermocouple Contacts  
PC Tail Contacts*



D

E

**Tools and Accessories**

*Insertion and Extraction Tools  
Crimp Tools*



E

Index

**Index**

*Part Number Index*

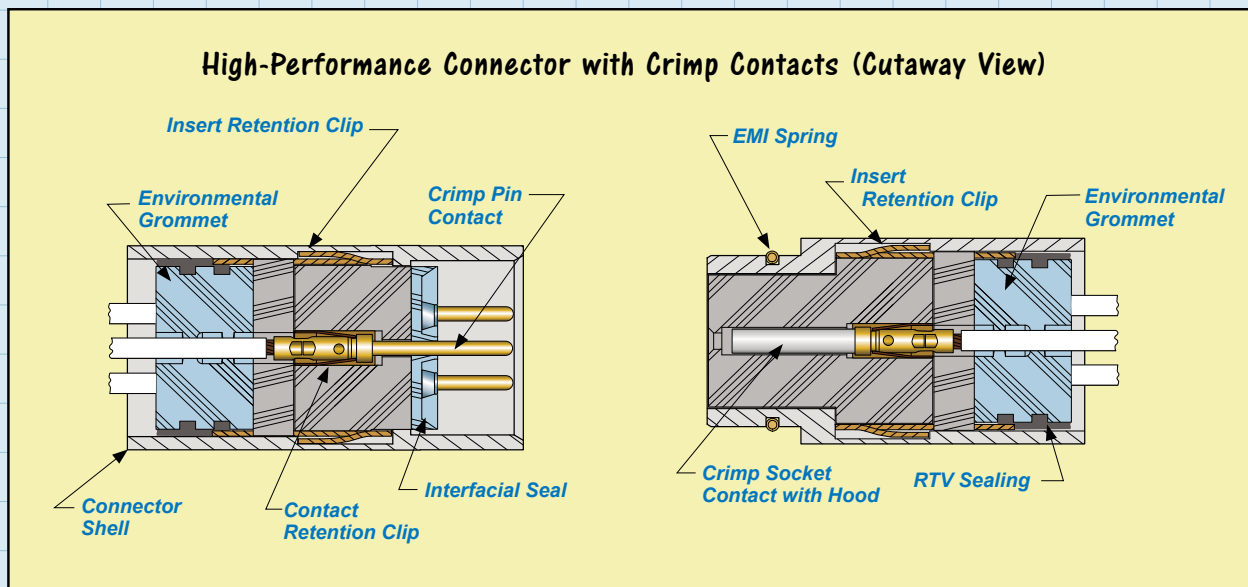
Index



**G**lenair brings a new perspective to the supply of high-performance Mil-Spec and commercial contacts: High Availability! Whether you need a standard duty socket for a MIL-DTL-28840 connector or an extended duty pin for MIL-DTL-38999 Series III, we have you covered with products that are always in stock—with no dollar or quantity minimums. In addition to the broadest selection and availability, Glenair also delivers outstanding interconnection compatibility. Glenair QPL SAE-AS39029 as well as our proprietary contact series are guaranteed to mate properly and perform at the upper limits of application requirements.

### About SAE AS39029 Crimp Contacts

In a marketplace saturated with specialty interconnection media, the SAE-AS39029 crimp contact is still the “bread and butter” of the circular connector world. Serving platforms like the D38999, M28840 and countless others, AS39029 crimp contacts continue to offer reliable power and signal transmission in ruggedized applications. A myriad of sizes, termination options and materials mean that end users don’t have to compromise performance or reliability.



Crimping results in a gas tight connection between the wire and its terminal. Although there are certainly alternatives to crimping, such as ultrasonic welding, resistance welding, insulation displacement technologies and so on, no other available technology delivers the short cycle times, flexibility and low overall cost of crimping—making it the termination technology of choice for most high-performance connector systems.

Crimp connectors are most commonly used to terminate stranded wire. Crimp-on terminals are attached by inserting the stripped end of the wire into the barrel end of the terminal, which is then mechanically deformed (crimped). Special crimp tools are a must, and are supplied with appropriate accessory attachments to ensure reliable terminations for every wire and contact combination. Military Specification MIL-DTL-22520 provides the aerospace/defense industry with a common set of rugged, reliable hand crimp tools. This specification controls the voltage drop and tensile strength of crimp terminations. Daniels Manufacturing Corporation is the leading manufacturer of these tools.

The AS39029 product series supplied by Glenair includes all the most popular standard and extended duty pin and socket contacts for use in high-performance circular and rectangular multi-pin connectors. We are also well positioned to supply special-purpose contacts to meet unique application requirements.

## Introduction to Crimp Contacts High Performance Shielded

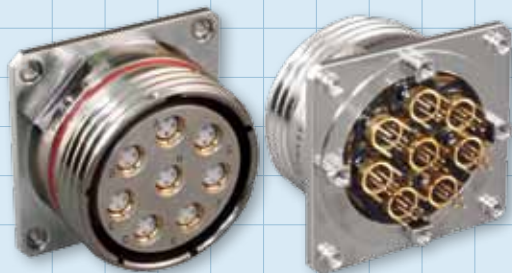
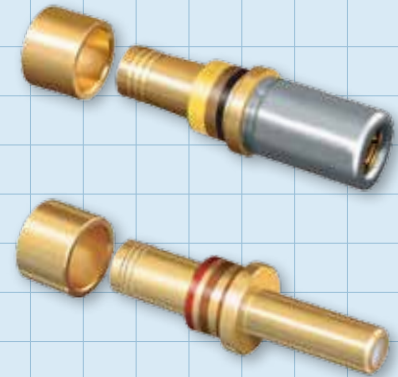


### About High Performance Shielded Contacts

Glenair shielded contacts are fabricated from the best available materials and manufacturing processes. Conductive elements are gold-plated copper alloy. Dielectrics are high-performance fluorocarbon. When applicable, contacts are approved to SAE AS39029.

### Shielded Coaxial Contacts

Shielded coaxial contacts have a special role in the interconnect system and are designed for use in a wide range military and aerospace connectors that service analog radio frequency or microwave applications. Most Glenair cylindrical connectors, including MIL-DTL-38999, can accommodate shielded coaxial contacts. Rectangular connector packages, such as our high-performance HiPer-D are also ideally suited for shielded high frequency contacts. Glenair coaxial contacts are specified according to size, cable choice and impedance. The contacts are easily incorporated into standard 8, 12 and 16 size contact cavities, enabling users to interchange high-frequency contacts into connector insert arrangements originally designed for power or signal contacts. Special 50 Ohm matched impedance contacts are also available. Various grades of coaxial cables can be supplied directly by Glenair, or other commercial suppliers.



### Quadrax

A Quadrax contact is really a "connector within a connector." These unique high-speed contacts house four discrete size 24 pin or socket contacts within each keyed size 8 crimp body. Two sets of twisted pair wires terminate to the size 24 contacts, while the overall shield is grounded via the outer size 8 shell—affording 360° shielding. These high speed contacts have outstanding EMI compatibility for high data transfer digital applications where little or no power is needed. Standard crimping tools can be used to terminate all components, making shop or field assembly fast and simple.

### Shielded Concentric Twinax

These contacts are designed for high-speed twisted pair applications that count on reliable shielding and contact durability. The concentric twinax cartridge is designed for easy crimp termination of twisted pair cable and shielding, and are designed specifically for use in MIL-DTL-38999 connectors. Unlike standard twinax designs, Glenair concentric twinax contacts deliver outstanding shield integrity from the conductor through the connector and do not require contact polarization within the insert. Glenair size #8 concentric twinax contacts feature a hooded socket and hardened plating for outstanding durability. Pin contacts are chamfered for easy and reliable mating. Termination is supported with easy to follow crimp instructions. Assembly tooling is available for these and all Glenair contacts.



## Introduction to Crimp Contacts Fiber Optic Termini

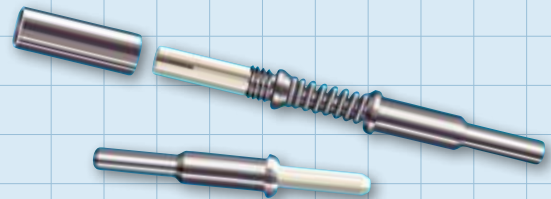
### About Fiber Optic Contacts

Today, the use of fiber optic systems to carry digitized video, voice and data is universal. High-performance fiber optic interconnect technologies, combined with satellite and other broadcast media, enable high-speed specialized applications in avionics, robotics, weapon systems, sensors, space and other high performance environments. Highly engineered fiber optic contacts, or termini, are the key to delivering low data loss and reliable, repeatable performance in fiber optic connection systems.

### Fiber Optic Interconnect Termini

Fiber optic connectors are designed to be connected and disconnected many times without affecting the optical performance of the fiber circuit. Connectors can be thought of as transition devices which make it possible to divide fiber optic networks into interconnected subsystems and to facilitate the attachment of individual branches of the system to a transmitter, receiver or another fiber. The MIL-DTL-38999 connector is currently the most commonly specified multi-pin cylindrical interconnect in both fiber and copper conductor aerospace applications. When used to connect multiple strands of fiber simultaneously, the D38999 connector functions as a container or shell for the precision termini which perform the actual marriage of the fiber strands.

Over the past two decades there have been dramatic tolerance improvements in terminus design to ensure precise, repeatable, axial and angular alignment between pin and socket termini within the connector shell. Ferrule design, critical to the performance of the termini, has traditionally relied on a machined stainless steel ferrule incorporating a precision micro-drilled hole.



Glenair's fiber optic termini for D38999 Series III connectors are qualified to MIL-PRF-29504/4 and /5 requirements. Unique precision ceramic ferrules, with concentricity and diametric tolerances controlled within a micron (.00004 of an inch), meet the needs of high bandwidth and low allowable insertion loss applications. Glenair's ferrules are approximately 10 times more accurate than alternative designs, and have reduced insertion loss values from 1.5dB to less than .5dB. These products are ideally suited for aerospace applications.

Glenair has also manufactured and qualified fiber optic interconnection systems for other branches of the military, including those used in mission-critical ground, sea and space applications. Contact termini for these fiber optic systems incorporate many of the latest technologies, including integrated retention clips, IPC polish keying, environmental sealing and more. Our single and multichannel fiber optic termini utilize the latest materials technology and are designed for use with Glenair's family of fiber optic connectors as well as third party products. From MIL-DTL-38999 to MIL-DTL-28876, Glenair has a fiber optic terminus for virtually every high-performance fiber optic system in use today and we are on the design and standards committees creating fiber optic interconnect solutions for tomorrow's mission-critical applications.

### Fiber Optic Costs and Benefits

When evaluating the costs and benefits of moving to fiber, it is important to adopt both a short and long term view. In the short term, it is arguably less expensive to simply continue using copper cabling to meet an incremental expansion of data communication needs. This avoids the expense of adding the transmitters, converters, repeaters, connectors, termini, receivers and so on needed for integrating optical fiber into an existing electronic system. Taking the long view, investing in the conversion to fiber optics often makes good sense, especially given the performance benefits—EMI immunity, security, weight reduction, bandwidth, etc.—as well as cost of ownership factors such as reduced cable maintenance costs and ease of installation.

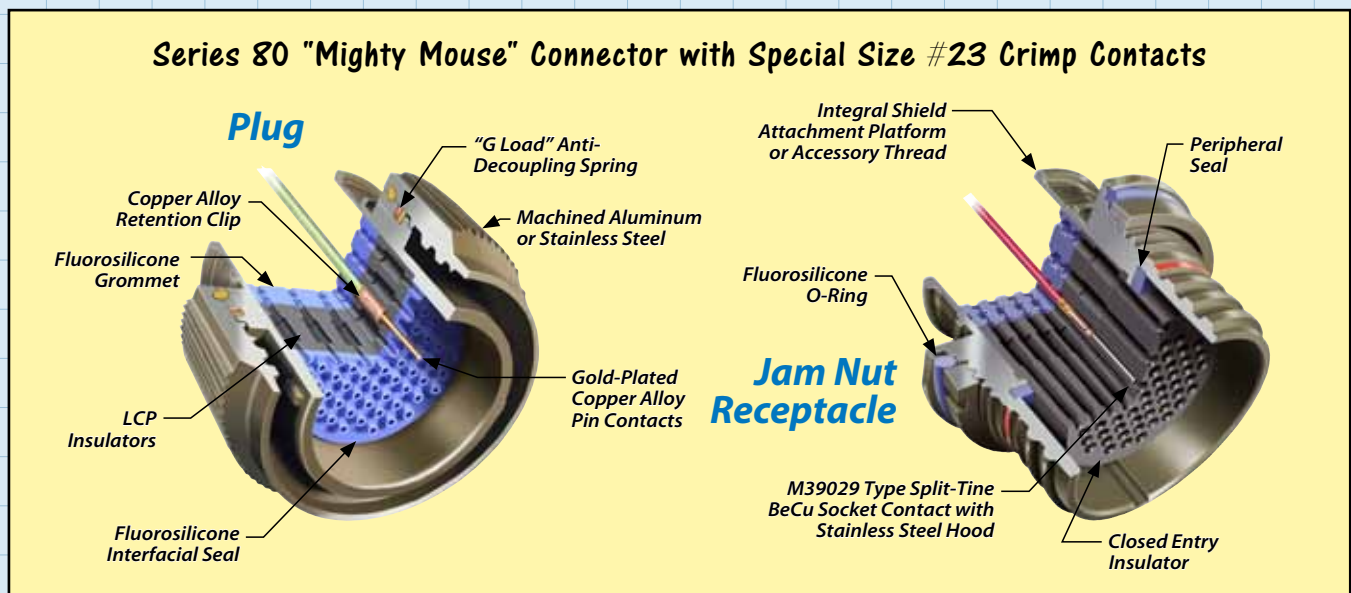
## Introduction to Crimp Contacts Series 80 Mighty Mouse



### About Our Series 80 Mighty Mouse Size #23 Crimp Contacts

Like all high-performance crimp contact systems, Series 80 Mighty Mouse contacts are terminated to wire using precision crimp tools, and are then snapped into place by hand or with a hand held insertion tool. Damaged or miswired contacts may be removed from the connector using special extraction tools. Although the connectors are supplied with a full complement of contacts, extra contacts are commonly purchased as spares or to use for quality assurance purposes, such as crimp tensile tests. Coaxial contacts are also typically ordered separately, as customers prefer to specify the exact performance values for these specialized shielded contacts.

Mighty Mouse contacts conform to the requirements of Aerospace Standard AS39029. This SAE specification defines the design, dimensions and performance of contacts used in aerospace grade electrical connectors. The "general specification" covers a variety of contacts including thermocouple, hermetic, coaxial and triaxial types. The "slash sheets" contain dimensions and other information for specific types of contacts. Each contact is assigned a Basic Identification Number (BIN), a non-significant three digit code corresponding to the color code on the contacts. Series 80 Size #23 and size #20HD contacts conform to AS39029 requirements, but are not covered by a slash sheet. Size #20, #16 and size #12 contacts are standard AS39029 contacts.



### About Thermocouple and Other Special Purpose Contacts

Glenair produces a wide range of special purpose contacts including high power and high ampacity contacts, pneumatic contacts, PC Tail contacts for board terminations and thermocouple contacts for use in temperature measuring applications. We also produce all the small accessory items, such as sealing plugs, that make us a convenient one-stop-shopping destination for users of high-performance Mil-Spec and commercial connectors and contacts.

We invite our customers to take advantage of the breadth and depth of our contact product line, especially in terms of its high-availability and our willingness to engineer unique and special-purpose contact solutions for virtually any interconnect challenge.



## Connector and Contact Glossary of Useful Terms

**Barrel** - (Conductor Barrel) - The section of the terminal, splice or contact that accommodates the stripped conductor.

**BIN (Basic Identification Number)** - color bands on the crimp barrel of a contact to identify contact part number. Each BIN code corresponds to only one slash sheet, thus identifying the complete M39029/XX- part number.

**Closed entry** - A contact or contact cavity design in the insert or body of the connector which limits the size or position of the mating contact or printed circuit board to a predetermined dimension.

**Coaxial contact** - A contact having two conducting surfaces, a center contact and a coaxially placed sleeve

**Contact** - The conductive element in a connector that makes actual contact, for the purpose of transferring electrical energy.

**Contact area** - The area in contact between two conductors, two contacts, or a conductor and a contact permitting the flow of electricity.

**Contact arrangement** - The number, spacing and arrangement of contacts in a connector.

**Contact resistance** - Electrical resistance of a pair of engaged contacts. Resistance may be measured in ohms or millivolt drop at a specified current over the engaged contacts.

**Contact retainer** - A device either on the contact or in the insert to retain the contact in an insert or body.

**Contact retention** - The axial load in either direction which a contact can withstand without being dislodged from its normal position within an insert or body.

**Contact size** - An assigned number denoting the size of the contact engaging end.

**Contact shoulder** - The flanged portion of a contact which limits its travel into the insert.

**Crimp** - The physical compression (deformation) of a contact barrel around a conductor in order to make an electrical connection.

**Crimp contact** - A contact, pin or socket, whose back portion (wire barrel) is a hollow cylinder into which a stripped wire (conductor) is inserted. The sidewalls of the wire barrel are then mechanically compressed (uniformly deformed) using a crimping tool to captivate the conductor.

**Crimping dies** - Portion of the crimping tool that shapes the crimp.

**Crimping tool** - Mechanism used for crimping.

**Depth of Crimp** - The distance the indenter penetrates into the barrel.

**Die Closure** - The gap between indenter dies at full handle closure. Usually defined by Go/No-Go dimensions.

**Indenter** - That part of a crimping die, usually the moving part, which indents or compresses the contact barrel.

**Inspection hole** - A hole placed at the bottom end of a contact wire barrel to permit visual inspection to see that the conductor has been inserted to the proper depth in the barrel prior to crimping.

**Installing tool** - A device used to install contacts into a connector. A device used to install taper pins into taper pin receptacles.

**Locator** - Device for positioning terminals, splices, or contacts into crimping dies, positioner, or turret heads.

**Milivolt drop test** - A test designed to determine the voltage loss due to resistance of a crimped joint.

**Pin contact** - A contact having an engagement end that enters the socket contact.



## Connector and Contact Glossary of Useful Terms



**Plating** - The overlaying of a thin coating of metal on metallic components to improve conductivity, provide for easy soldering or prevent rusting or corrosion.

**Positioner** - A device when attached to a crimping tool locates the contact in the correct position.

**Power contact** - Type of contact used in multi-contact connectors to support the flow of rated current.

**Pull-out force** - Force necessary to separate a conductor from a contact or terminal, or a contact from a connector, by exerting a tensile pull.

**Radio frequency contact (RF contact)** - An impedance matched shielded contact.

**Range, wire** - The sizes of conductors accommodated by a particular barrel. Also the diameters of wires accommodated by a sealing grommet.

**Removal tool** - A device used to remove a contact from a connector. A device used to remove a taper pin from a taper pin receptacle.

**Sealing plug** - A plug which is inserted to fill an unoccupied contact aperture in a connector insert. Its function is to seal all unoccupied apertures in the insert, especially in environmental connectors.

**Shielded contact** - A contact which carries alternating current and is shielded from unwanted signals (RFI and EMI).

**Socket contact** - A contact having an engagement end that will accept entry of a pin contact.

**Solderless connection** - The joining of two metals by pressure means without the use of solder, braze, or any method requiring heat.

**Strip** - To remove insulation from a conductor. (See details elsewhere in technical section of this cat.)

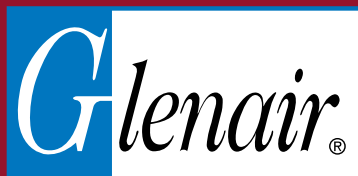
**Thermocouple contact** - Contact of special material used in connectors employed in thermocouple applications. Material often used are iron, constantan, copper, chromel, alumel and others.

**Turret Head** - A device that contains more than one locator which can be indexed by rotating a circular barrel, and when attached to a crimping tool, positions the contact.



# Tired of Cooling Your Heels?

*Glenair Rapid-Response Contact Manufacturing and Same-Day Stocking Saves You Time, Money and Hassle*



1211 Air Way

Glendale, California 91201-2497

Telephone: 818-247-6000 · Facsimile: 818-500-9912 · E-mail: [sales@glenair.com](mailto:sales@glenair.com)

United States · United Kingdom · Germany · Nordic · France · Italy · Spain · Japan

[www.glenair.com](http://www.glenair.com)

# SAE-AS39029 QPL

## High Performance Pin and Socket Crimp Contacts

A

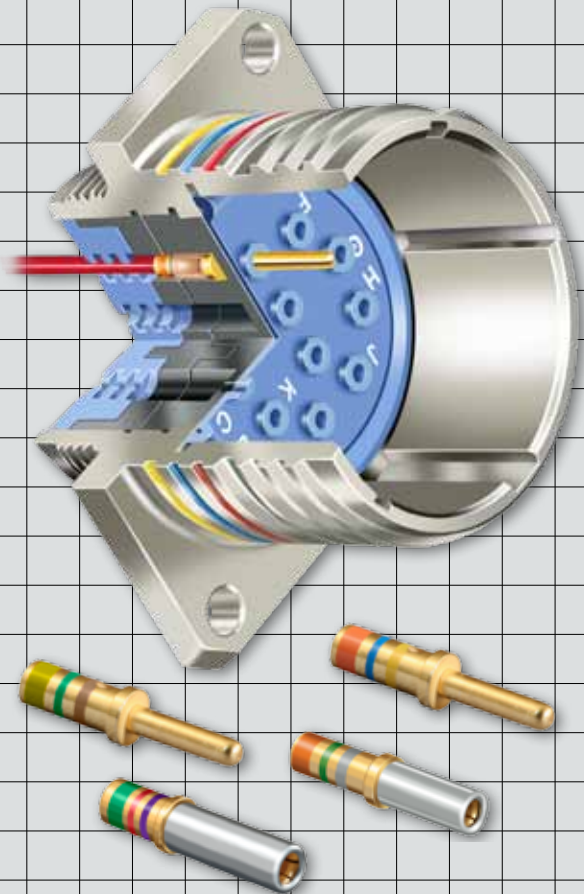
### Outstanding Product Availability

Glenair brings a new perspective to the supply of Mil-Spec crimp contacts: *High Availability!* Whether you need a standard duty socket for a MIL-DTL-28840 connector or an extended duty pin for MIL-DTL-38999 Series III we have got you covered with products that are always in stock—with no dollar or quantity minimums.

In addition to the broadest selection and availability, Glenair also delivers outstanding interconnection compatibility. Glenair QPL SAE-AS39029 contacts are guaranteed to mate properly and perform at the upper limits of application and specification requirements.

### Errata

*Catalog contents—including part numbers, materials and dimensions—are accurate to the best of our ability when we go to print. When errors or mistakes are brought to our attention, corrected content is posted immediately to [www.glenair.com](http://www.glenair.com).*



- ◆ Qualified to SAE-AS39029 on Dozens of Contacts—and Growing!
- ◆ Same Day Inventory on Popular and Hard-to-Find Styles
- ◆ Highest Quality Materials Including Enhanced Durability Plating
- ◆ Fully Intermatable with Equivalent AS39029 QPL Contacts

A

| Military Part Number | Glenair Part Number | Contact Size | Wire Accommodation | Pin / Socket | BIN Color Striping |        |        | Product Page |
|----------------------|---------------------|--------------|--------------------|--------------|--------------------|--------|--------|--------------|
| M39029/56-348        | 850-001-22-348      | 22           | 22-28 AWG          | Socket       | Orange             | Yellow | Grey   | A-6          |
| M39029/56-351        | 850-001-20-351      | 20           | 20-24 AWG          | Socket       | Orange             | Green  | Brown  |              |
| M39029/56-352        | 850-001-16-352      | 16           | 16-20 AWG          | Socket       | Orange             | Green  | Red    |              |
| M39029/56-353        | 850-001-12-353      | 12           | 12-14 AWG          | Socket       | Orange             | Green  | Orange |              |
| M39029/56-527        | 850-001-10-527      | 10           | 10 AWG             | Socket       | Green              | Red    | Violet |              |
| M39029/57-354        | 850-003-22-354      | 22           | 22-28 AWG          | Socket       | Orange             | Green  | Yellow | A-8          |
| M39029/57-357        | 850-003-20-357      | 20           | 20-24 AWG          | Socket       | Orange             | Green  | Violet |              |
| M39029/57-358        | 850-003-16-358      | 16           | 16-20 AWG          | Socket       | Orange             | Green  | Grey   |              |
| M39029/57-359        | 850-003-12-359      | 12           | 12-14 AWG          | Socket       | Orange             | Green  | White  |              |
| M39029/58-360        | 850-002-22-360      | 22           | 22-28 AWG          | Pin          | Orange             | Blue   | Black  | A-10         |
| M39029/58-363        | 850-002-20-363      | 20           | 20-24 AWG          | Pin          | Orange             | Blue   | Orange |              |
| M39029/58-364        | 850-002-16-364      | 16           | 16-20 AWG          | Pin          | Orange             | Blue   | Yellow |              |
| M39029/58-365        | 850-002-12-365      | 12           | 12-14 AWG          | Pin          | Orange             | Blue   | Green  |              |
| M39029/58-528        | 850-002-10-528      | 10           | 10 AWG             | Pin          | Green              | Red    | Grey   |              |
| M39029/63-368        | 850-021-20-368      | 20           | 20-24 AWG          | Socket       | Orange             | Blue   | Grey   | A-12         |
| M39029/64-369        | 850-022-20-369      | 20           | 20-24 AWG          | Pin          | Orange             | Blue   | White  | A-13         |

## BIN Color Coding

|            |            |          |             |             |            |           |             |           |            |
|------------|------------|----------|-------------|-------------|------------|-----------|-------------|-----------|------------|
| 0<br>BLACK | 1<br>BROWN | 2<br>RED | 3<br>ORANGE | 4<br>YELLOW | 5<br>GREEN | 6<br>BLUE | 7<br>VIOLET | 8<br>GREY | 9<br>WHITE |
|------------|------------|----------|-------------|-------------|------------|-----------|-------------|-----------|------------|

# SAE-AS39029 Crimp Contact Selection Guide



AS39029

A

| Military Part Number | Glenair Part Number | Contact Size | Wire Accommodation | Pin / Socket | BIN Color Striping |       |        | Product Page |
|----------------------|---------------------|--------------|--------------------|--------------|--------------------|-------|--------|--------------|
| M39029/83-450        | 850-004-20-450      | 20           | 22-26 AWG          | Pin          | Yellow             | Green | Black  | A-14         |
| M39029/83-451        | 850-004-20-451      | 20           | 28-32 AWG          | Pin          | Yellow             | Green | Brown  |              |
| M39029/83-508        | 850-004-20-508      | 20           | 20-24 AWG          | Pin          | Green              | Black | Grey   |              |
| M39029/84-452        | 850-005-20-452      | 20           | 22-26 AWG          | Socket       | Yellow             | Green | Red    | A-16         |
| M39029/84-453        | 850-005-20-453      | 20           | 28-32 AWG          | Socket       | Yellow             | Green | Orange |              |
| M39029/84-509        | 850-005-20-509      | 20           | 20-24 AWG          | Socket       | Green              | Black | White  |              |
| M39029/106-614       | 850-006-22-614      | 22           | 22-28 AWG          | Socket       | Blue               | Brown | Yellow | A-18         |
| M39029/106-615       | 850-006-20-615      | 20           | 20-24 AWG          | Socket       | Blue               | Brown | Green  |              |
| M39029/106-616       | 850-006-16-616      | 16           | 16-20 AWG          | Socket       | Blue               | Brown | Blue   |              |
| M39029/106-617       | 850-006-12-617      | 12           | 12-14 AWG          | Socket       | Blue               | Brown | Violet |              |
| M39029/106-618       | 850-006-10-618      | 10           | 10 AWG             | Socket       | Blue               | Brown | Grey   |              |
| M39029/107-620       | 850-007-22-620      | 22           | 22-28 AWG          | Pin          | Blue               | Red   | Black  | A-20         |
| M39029/107-621       | 850-007-20-621      | 20           | 20-24 AWG          | Pin          | Blue               | Black | Brown  |              |
| M39029/107-622       | 850-007-16-622      | 16           | 16-20 AWG          | Pin          | Blue               | Red   | Red    |              |
| M39029/107-623       | 850-007-12-623      | 12           | 12-14 AWG          | Pin          | Blue               | Red   | Orange |              |
| M39029/107-624       | 850-007-10-624      | 10           | 10 AWG             | Pin          | Blue               | Red   | Yellow |              |

| BIN Color Coding |            |          |             |             |            |           |             |           |            |
|------------------|------------|----------|-------------|-------------|------------|-----------|-------------|-----------|------------|
| 0<br>BLACK       | 1<br>BROWN | 2<br>RED | 3<br>ORANGE | 4<br>YELLOW | 5<br>GREEN | 6<br>BLUE | 7<br>VIOLET | 8<br>GREY | 9<br>WHITE |

| Test                   | Performance Specifications                    |  |
|------------------------|---|--|
| Current Rating         | <i>(meets SAE-AS39029, paragraph 3.5.4.1)</i> |  |
|                        | Contact Size                                  | Maximum Amps<br><i>Crimp</i>           |
|                        | 22D   | 5                                      |
|                        | 20  | 7.5                                    |
|                        | 16  | 13                                     |
|                        | 12  | 23                                     |
| Contact Millivolt Drop | Contact Size                                  | Maximum Millivolt Drop<br><i>Crimp</i> |
|                        | 22D   | 73                                     |
|                        | 20  | 55                                     |
|                        | 16  | 49                                     |
|                        | 12  | 42                                     |
|                        | 10  | 33                                     |

| Tensile Strength | Axial Load (Pounds) |                               |                          |                           |                          | Axial Load (Pounds) |                               |                          |                           |                          |
|------------------|---------------------|-------------------------------|--------------------------|---------------------------|--------------------------|---------------------|-------------------------------|--------------------------|---------------------------|--------------------------|
|                  | Wire Size           | Silver Tin-Plated Copper Wire |                          | Nickel-Plated Copper Wire |                          | Wire Size           | Silver Tin-Plated Copper Wire |                          | Nickel-Plated Copper Wire |                          |
|                  |                     | Initial Condition Values      | Thermal Condition Values | Initial Condition Values  | Thermal Condition Values |                     | Initial Condition Values      | Thermal Condition Values | Initial Condition Values  | Thermal Condition Values |
|                  | 0000                | 875                           | 787.5                    | 785                       | 706.5                    | 12                  | 110                           | 93.0                     | 100                       | 85.0                     |
|                  | 00                  | 750                           | 675.0                    | 675                       | 607.5                    | 14                  | 70                            | 61.0                     | 60                        | 53.0                     |
|                  | 0                   | 700                           | 630.0                    | 630                       | 567.0                    | 16                  | 50                            | 45                       | 37                        | 33                       |
|                  | 1                   | 650                           | 585.0                    | 585                       | 526.5                    | 20                  | 20                            | 14                       | 19                        | 14.3                     |
|                  | 2                   | 550                           | 495.0                    | 495                       | 445.5                    | 22                  | 12                            | 7.5                      | 8                         | 6.0                      |
|                  | 4                   | 400                           | 360.0                    | 360                       | 324.0                    | 24                  | 8                             | 6                        | 6                         | 4.5                      |
|                  | 6                   | 300                           | 270.0                    | 270                       | 243.0                    | 26                  | 5                             | 4.0                      | 3                         | 2.5                      |
|                  | 8                   | 220                           | 198.0                    | 200                       | 180.0                    | 28                  | 3                             | 2.25                     | 1                         | 1.50                     |
|                  | 10                  | 150                           | 135.0                    | 135                       | 121.5                    | 30                  | 1.5                           | 1.13                     | 1.5                       | 1.13                     |

## CONTACT MATERIALS AND SPECIFICATIONS

| Component           | Material   | Notes                     |
|---------------------|--|---------------------------|
| Pin Contact         | Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type II Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 30-150 microinches  | Approved for Space Flight |
| Socket Contact      | Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type II Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 30-150 microinches. | Approved for Space Flight |
| Socket Contact Hood | Stainless steel, passivated per AMS-QQ-P-35  | Approved for Space Flight |

## Contact Performance Specifications



AS39029

A

| Test                            | Performance Specifications  |
|---------------------------------|---|
| Durability                      | <i>(meets SAE-AS39029, paragraph 3.5.9)</i><br>No electrical or mechanical defects after 500 cycles of engagement and disengagement   |
| Contact Retention               | <i>(meets MIL-DTL-38999, paragraph 3.23)</i><br>The axial displacement of the contact shall not exceed .012 inch (0.30 mm).<br>No damage to contacts or inserts shall result.   |
| Pin Engagement End              | <i>(meets SAE-AS39029 paragraph 3.4.1)</i><br>Unless otherwise specified, the mating end of all contacts (except size 22 and smaller) shall be formed with an approximate spherical radius.   |
| Permeability                    | <i>(meets SAE-AS39029, paragraph 3.5.1)</i><br>When tested as specified in paragraph 4.7.2, the relative magnetic permeability of the contact shall be no greater than 2.0.   |
| Vibration                       | <i>(meets SAE-AS39029, paragraph 3.5.10)</i><br>When contacts are tested as specified in paragraph 4.7.11, there shall be no electrical discontinuity of 1 microsecond or greater. There shall be no defects detrimental to the mechanical or electrical performance.   |
| Salt Spray (corrosion)          | <i>(meets SAE-AS39029, paragraph 3.5.12)</i><br>When tested as specified in 4.7.13, mated contacts shall withstand 48 hours of salt spray conditioning without defects detrimental to the mechanical or electrical performance.   |
| Temperature life                | <i>(meets SAE-AS39029, paragraph 3.5.13)</i><br>When tested as specified in paragraph 4.7.14, mated contacts shall withstand temperature conditioning for 1,000 hours without defects detrimental to mechanical or electrical performance. There shall be no diffusion/migration of the base metal through the contact outer plating. Class A - Maximum operating temperature +125°C. per paragraph 1.2.2 |
| Dielectric withstanding voltage | <i>(meets SAE-AS39029, paragraph 3.5.19)</i><br>When tested as specified in paragraph 4.7.20, crimped contacts shall show no evidence of breakdown or flashover.  |
| Workmanship                     | <i>(meets SAE-AS39029, paragraph 3.7)</i><br>Contacts shall be processed in such a manner as to be uniform in quality and shall be free from foreign material and burrs or sharp corners that might damage the connector or affect mating of the contacts. Burrs and sharp edges shall be removed 0.005 inch maximum.   |

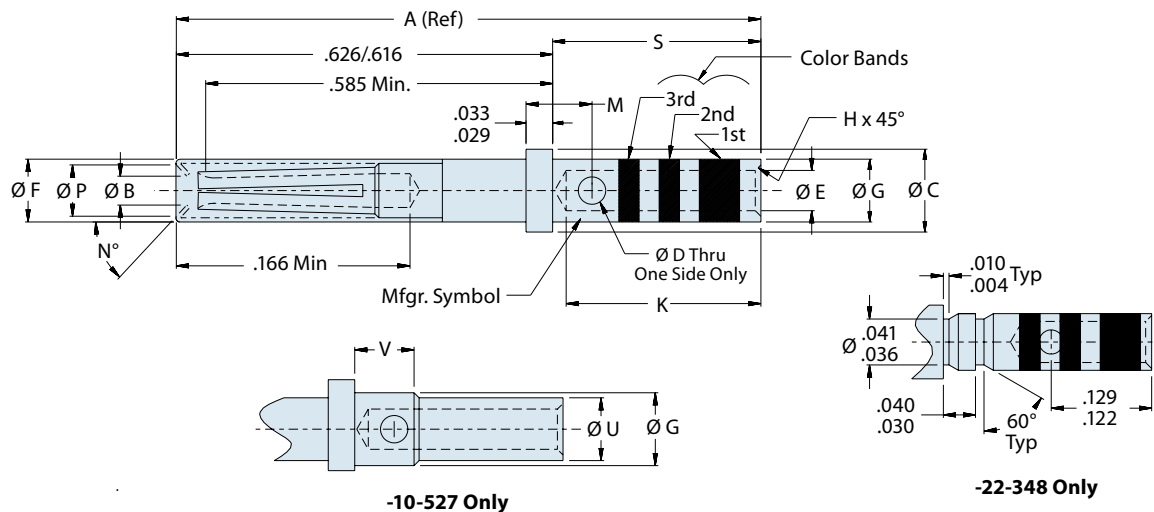
**D38999**  
 Ser. I, III, IV

**Standard Socket Crimp Contact for MIL-DTL-38999 Series I, III and IV Connectors**

A



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number   |
|-----------------|-------------------|----------------------|-----------------------|
| 22              | 22-28 AWG         | <b>M39029/56-348</b> | <b>850-001-22-348</b> |
| 20              | 20-24 AWG         | <b>M39029/56-351</b> | <b>850-001-20-351</b> |
| 16              | 16-20 AWG         | <b>M39029/56-352</b> | <b>850-001-16-352</b> |
| 12              | 12-14 AWG         | <b>M39029/56-353</b> | <b>850-001-12-353</b> |
| 10              | 10 AWG            | <b>M39029/56-527</b> | <b>850-001-10-527</b> |


**Material and Finish\***

Pin Contact: Copper Alloy/Gold Plated  
 Socket Contact: Copper Alloy/Gold Plated  
 Socket Contact Hood: Passivated Stainless Steel

\* See pages A-4 and A-5 for detailed material specifications



**M39029/56  
850-001  
Standard Duty Electrical Socket Contact**



AS39029

A

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | A (ref) | Ø B Min. | Ø C          | Ø D          | Ø E            | Ø F Max | Ø G          | Ø H          | K Min        |
|------|----------------|-----------------|---------|----------|--------------|--------------|----------------|---------|--------------|--------------|--------------|
| 22   | 850-001-22-348 | M39029/56-348   | .855    | .031     | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .062    | .048<br>.046 | .005<br>.003 | .141         |
| 20   | 850-001-20-351 | M39029/56-351   |         | .0415    | .094<br>.091 | .032<br>.026 | .048<br>.046   | .078    | .070<br>.068 | .010<br>.005 | .209         |
| 16   | 850-001-16-352 | M39029/56-352   |         | .064     | .130<br>.127 | .042<br>.036 | .068<br>.066   | .113    | .103<br>.101 | .010<br>.005 | .209         |
| 12   | 850-001-12-353 | M39029/56-353   |         | .0955    | .182<br>.179 | .042<br>.036 | .102<br>.098   | .161    | .151<br>.148 | .016<br>.005 | .209         |
| 10   | 850-001-10-527 | M39029/56-527   | 1.021   | .1265    | .242<br>.238 | .052<br>.046 | .140<br>.134   | .215    | .213<br>.207 | .016<br>.005 | .385<br>.355 |

**TABLE I (Continued): CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | M            | N°         | Ø P Min | S            | Ø U          | V            | Color Bands |        |        |
|------|----------------|-----------------|--------------|------------|---------|--------------|--------------|--------------|-------------|--------|--------|
|      |                |                 |              |            |         |              |              |              | 1st         | 2nd    | 3rd    |
| 22   | 850-001-22-348 | M39029/56-348   | -            | 50°<br>44° | .047    | .237<br>.231 | -            | -            | Orange      | Yellow | Grey   |
| 20   | 850-001-20-351 | M39029/56-351   | .078<br>.072 | 47°<br>40° | .053    |              | -            | -            | Orange      | Green  | Brown  |
| 16   | 850-001-16-352 | M39029/56-352   | .088<br>.082 | 47°<br>40° | .084    |              | -            | -            | Orange      | Green  | Red    |
| 12   | 850-001-12-353 | M39029/56-353   | .088<br>.082 | 47°<br>40° | .118    |              | -            | -            | Orange      | Green  | Orange |
| 10   | 850-001-10-527 | M39029/56-527   | .115<br>.108 | Full R     | .146    | .405<br>.395 | .183<br>.177 | .121<br>.111 | Green       | Red    | Violet |

**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling   | Crimp Tool                                | Positioner   | Insertion Tool                  | Extraction Tool                 |
|------|----------------|-----------------|----------------|---|--|---------------------------------|---------------------------------|
| 22   | 850-001-22-348 | M39029/56-348   | 22, 24, 26, 28 | M22520/2-01<br>M22520/7-01                | M22520/2-07<br>M22520/7-05                         | M81969/14-01<br>M81969/8-01     | M81969/14-01<br>M81969/8-02     |
| 20   | 850-001-20-351 | M39029/56-351   | 20, 22, 24     | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02     | M81969/8-06<br>M81969/14-02     |
| 16   | 850-001-16-352 | M39029/56-352   | 16, 18, 20     | M22520/1-01<br>M22520/7-01                | M22520/1-04 (Blue)<br>M22520/7-04                  | M81969/8-07<br>M81969/14-03     | M81969/8-08<br>M81969/14-03     |
| 12   | 850-001-12-353 | M39029/56-353   | 12, 14         | M22520/1-01                               | M22520/1-04<br>(Yellow)                            | M81969/8-09<br>M81969/14-04     | M81969/8-10<br>M81969/14-04     |
| 10   | 850-001-10-527 | M39029/56-527   | 10             | Daniels 1716P-1                           | Daniels 1716P-1                                    | M81969/14-05<br>and M81969/8-11 | M81969/14-05<br>and M81969/8-12 |

D38999  
Series II

M24308

M55302

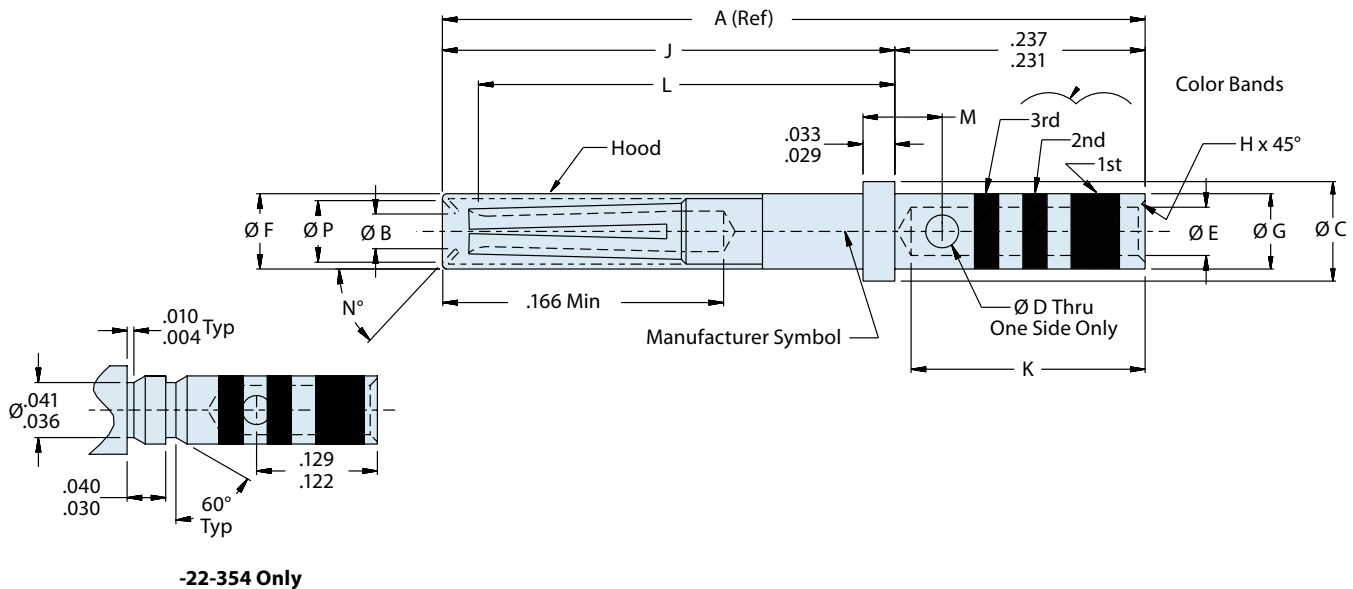
M83733

**Standard Socket Crimp Contact for MIL-DTL-38999 Series II Connectors**

A



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number   |
|-----------------|-------------------|----------------------|-----------------------|
| 22              | 22-28 AWG         | <b>M39029/57-354</b> | <b>850-003-22-354</b> |
| 20              | 20-24 AWG         | <b>M39029/57-357</b> | <b>850-003-20-357</b> |
| 16              | 16-20 AWG         | <b>M39029/57-358</b> | <b>850-003-16-358</b> |
| 12              | 12-14 AWG         | <b>M39029/57-359</b> | <b>850-003-12-359</b> |


**Material and Finish\***

Pin Contact: Copper Alloy/Gold Plated  
 Socket Contact: Copper Alloy/Gold Plated  
 Socket Contact Hood: Passivated Stainless Steel

\* See pages A-4 and A-5 for detailed material specifications

**M39029/57**  
**850-003**  
**Standard Duty Electrical Socket Contact**



AS39029

**A**

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | A (ref) | ø B Min. | ø C          | ø D          | ø E            | ø F Max. | ø G          | H            | J            |
|------|----------------|-----------------|---------|----------|--------------|--------------|----------------|----------|--------------|--------------|--------------|
| 22   | 850-003-22-354 | M39029/57-354   | .518    | .031     | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .062     | .048<br>.046 | .005<br>.003 | .289<br>.279 |
| 20   | 850-003-20-357 | M39029/57-357   | .518    | .0415    | .094<br>.091 | .032<br>.026 | .048<br>.046   | .078     | .070<br>.068 | .010<br>.005 | .289<br>.279 |
| 16   | 850-003-16-358 | M39029/57-358   | .518    | .064     | .130<br>.127 | .042<br>.036 | .068<br>.066   | .113     | .103<br>.101 | .010<br>.005 | .289<br>.279 |
| 12   | 850-003-12-359 | M39029/57-359   | .518    | .0955    | .182<br>.179 | .042<br>.036 | .102<br>.098   | .161     | .151<br>.148 | .016<br>.005 | .289<br>.279 |

**TABLE I (Continued): CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | K Min. | L Min. | M            | N°       | ø P Min. | Color Bands |       |        |
|------|----------------|-----------------|--------|--------|--------------|----------|----------|-------------|-------|--------|
|      |                |                 |        |        |              |          |          | 1st         | 2nd   | 3rd    |
| 22   | 850-003-22-354 | M39029/57-354   | .141   | .248   | -            | 50<br>44 | .047     | Orange      | Green | Yellow |
| 20   | 850-003-20-357 | M39029/57-357   | .209   | .248   | .078<br>.072 | 47<br>28 | .053     | Orange      | Green | Violet |
| 16   | 850-003-16-358 | M39029/57-358   | .209   | .248   | .088<br>.082 | 47<br>28 | .084     | Orange      | Green | Gray   |
| 12   | 850-003-12-359 | M39029/57-359   | .209   | .248   | .088<br>.082 | 47<br>28 | .118     | Orange      | Green | White  |

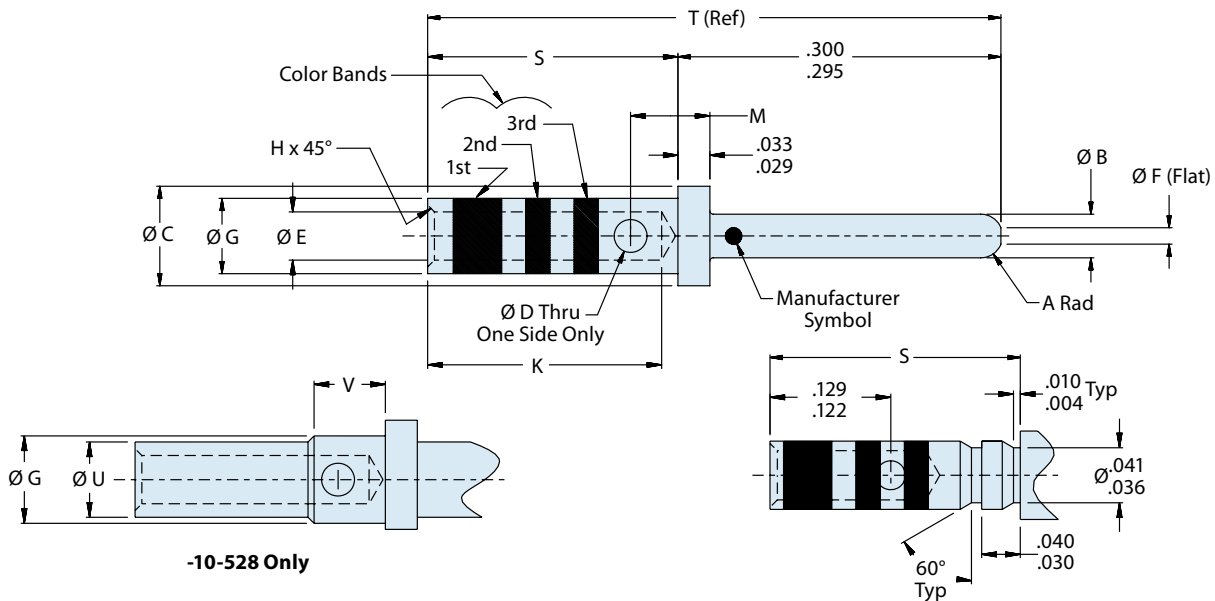
**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling   | Crimp Tool                                | Positioner   | Insertion Tool              | Extraction Tool             |
|------|----------------|-----------------|----------------|---|--|-----------------------------|-----------------------------|
| 22   | 850-003-22-354 | M39029/57-354   | 22, 24, 26, 28 | M22520/2-01<br>M22520/7-01                | M22520/2-06<br>M22520/7-06                         | M81969/14-01<br>M81969/8-01 | M81969/14-01<br>M81969/8-02 |
| 20   | 850-003-20-357 | M39029/57-357   | 20, 22, 24     | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02 | M81969/8-06<br>M81969/14-02 |
| 16   | 850-003-16-358 | M39029/57-358   | 16, 18, 20     | M22520/1-01<br>M22520/7-01                | M22520/1-04 (Blue)<br>M22520/7-04                  | M81969/8-07<br>M81969/14-03 | M81969/8-08<br>M81969/14-03 |
| 12   | 850-003-12-359 | M39029/57-359   | 12, 14         | M22520/1-01                               | M22520/1-04<br>(Yellow)                            | M81969/8-09<br>M81969/14-04 | M81969/8-10<br>M81969/14-04 |

**D38999**  
 Ser. I, II, III, IV

**M24308**
**M55302**
**M83733**
**Standard Pin Crimp Contact for MIL-DTL-38999 Series I, II, III and IV Connectors**
**A**


| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number   |
|-----------------|-------------------|----------------------|-----------------------|
| 22              | 22-28 AWG         | <b>M39029/58-360</b> | <b>850-002-22-360</b> |
| 20              | 20-24 AWG         | <b>M39029/58-363</b> | <b>850-002-20-363</b> |
| 16              | 16-20 AWG         | <b>M39029/58-364</b> | <b>850-002-16-364</b> |
| 12              | 12-14 AWG         | <b>M39029/58-365</b> | <b>850-002-12-365</b> |
| 10              | 10 AWG            | <b>M39029/58-528</b> | <b>850-002-10-528</b> |


**Material and Finish\***

Pin Contact: Copper Alloy/Gold Plated  
 Socket Contact: Copper Alloy/Gold Plated  
 Socket Contact Hood: Passivated Stainless Steel

\* See pages A-4 and A-5 for detailed material specifications

**M39029/58**  
**850-002**  
**Standard Duty Electrical Pin Contact**



AS39029

A

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | A (rad)      | ø B Min.       | ø C          | ø D          | ø E            | ø F          | ø G          | H            |
|------|----------------|-----------------|--------------|----------------|--------------|--------------|----------------|--------------|--------------|--------------|
| 22   | 850-002-22-360 | M39029/58-360   | .020<br>.010 | .0305<br>.0295 | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .011<br>max  | .048<br>.046 | .005<br>.003 |
| 20   | 850-002-20-363 | M39029/58-363   | .025<br>.020 | .041<br>.039   | .094<br>.091 | .032<br>.026 | .048<br>.046   | .015<br>max  | .070<br>.068 | .010<br>.005 |
| 16   | 850-002-16-364 | M39029/58-364   | .025<br>.020 | .0635<br>.0616 | .130<br>.127 | .042<br>.036 | .068<br>.066   | .030<br>.011 | .103<br>.101 | .010<br>.005 |
| 12   | 850-002-12-365 | M39029/58-365   | .025<br>.020 | .095<br>.093   | .182<br>.179 | .042<br>.036 | .102<br>.098   | .062<br>.043 | .151<br>.148 | .016<br>.005 |
| 10   | 850-002-10-528 | M39029/58-528   | .025<br>.020 | .126<br>.124   | .242<br>.238 | .052<br>.040 | .140<br>.134   | .094<br>.074 | .213<br>.207 | .016<br>.005 |

**TABLE I (Continued): CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | K Min. | M            | S            | T (Ref) | ø U          | V            | Color Bands |      |        |
|------|----------------|-----------------|--------|--------------|--------------|---------|--------------|--------------|-------------|------|--------|
|      |                |                 |        |              |              |         |              |              | 1st         | 2nd  | 3rd    |
| 22   | 850-002-22-360 | M39029/58-360   | .141   | –            | .237<br>.231 | .531    | –            | –            | Orange      | Blue | Black  |
| 20   | 850-002-20-363 | M39029/58-363   | .209   | .078<br>.072 | .237<br>.231 | .531    | –            | –            | Orange      | Blue | Orange |
| 16   | 850-002-16-364 | M39029/58-364   | .209   | .088<br>.082 | .237<br>.231 | .531    | –            | –            | Orange      | Blue | Yellow |
| 12   | 850-002-12-365 | M39029/58-365   | .209   | .088<br>.082 | .237<br>.231 | .531    | –            | –            | Orange      | Blue | Green  |
| 10   | 850-002-10-528 | M39029/58-528   | .355   | .115<br>.108 | .405<br>.395 | .698    | .183<br>.177 | .121<br>.111 | Green       | Red  | Gray   |

**TABLE II: TOOL COMPATIBILITY**

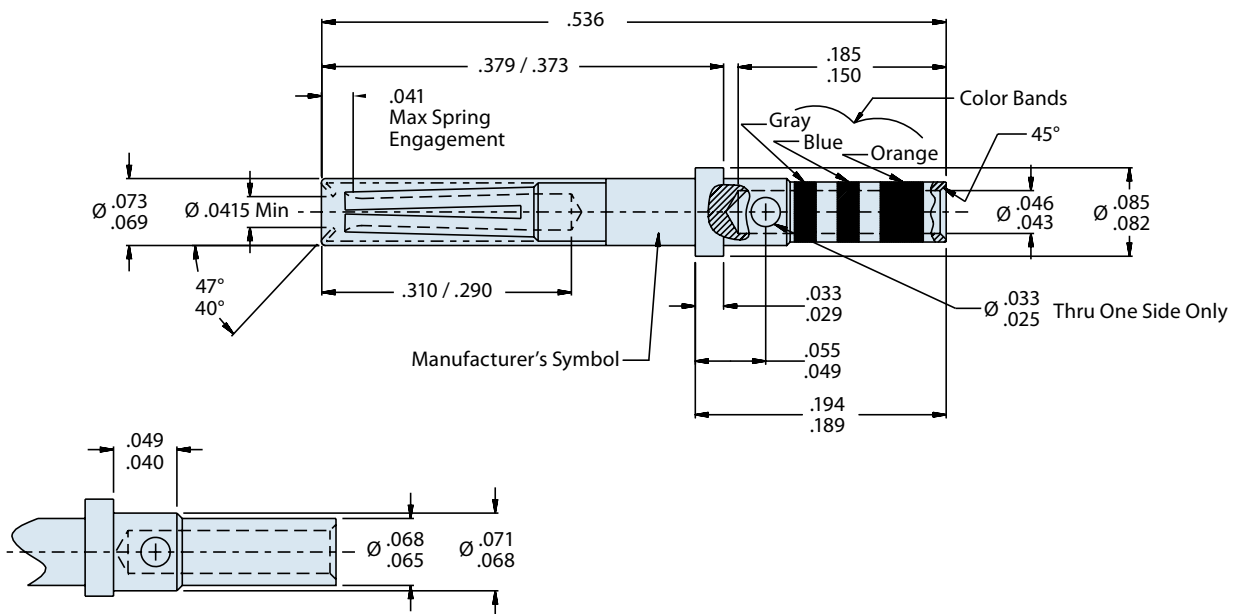
| Size | Part Number    | Military Number | AWG Handling   | Crimp Tool                                | Positioner   | Insertion Tool                  | Extraction Tool                 |
|------|----------------|-----------------|----------------|---|--|---------------------------------|---------------------------------|
| 22   | 850-002-22-360 | M39029/58-360   | 22, 24, 26, 28 | M22520/2-01<br>M22520/7-01                | M22520/2-09<br>M22520//7-07                        | M81969/14-01<br>M81969/8-01     | M81969/14-01<br>M81969/8-02     |
| 20   | 850-002-20-363 | M39029/58-363   | 20, 22, 24     | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02     | M81969/8-06<br>M81969/14-02     |
| 16   | 850-002-16-364 | M39029/58-364   | 16, 18, 20     | M22520/1-01<br>M22520/7-01                | M22520/1-04 (Blue)<br>M22520/7-04                  | M81969/8-07<br>M81969/14-03     | M81969/8-08<br>M81969/14-03     |
| 12   | 850-002-12-365 | M39029/58-365   | 12, 14         | M22520/1-01                               | M22520/1-04<br>(Yellow)                            | M81969/8-09<br>M81969/14-04     | M81969/8-10<br>M81969/14-04     |
| 10   | 850-002-10-528 | M39029/58-528   | 10             | Daniels 1716P-1                           | Daniels 1716P-1                                    | M81969/14-05<br>and M81969/8-11 | M81969/14-05<br>and M81969/8-12 |

M24308

### Standard Socket Crimp Contact for MIL-DTL-24308



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 20              | 20-24 AWG         | M39029/63-368        | 850-021-20-368      |



#### Material and Finish\*

Pin Contact: Copper Alloy/Gold Plated

Socket Contact: Copper Alloy/Gold Plated

Socket Contact Hood: Passivated Stainless Steel

\*See pages A-4 and A-5 for detailed material specifications

#### Tools

Crimp Tool: M22520/2-01

Positioner: M22520/2-08

Insertion/Extraction Tools: M81969/14-02 or M81969/1-02

**M39029/64**  
**850-022**  
**Standard Duty Electrical Pin Contact**



AS39029

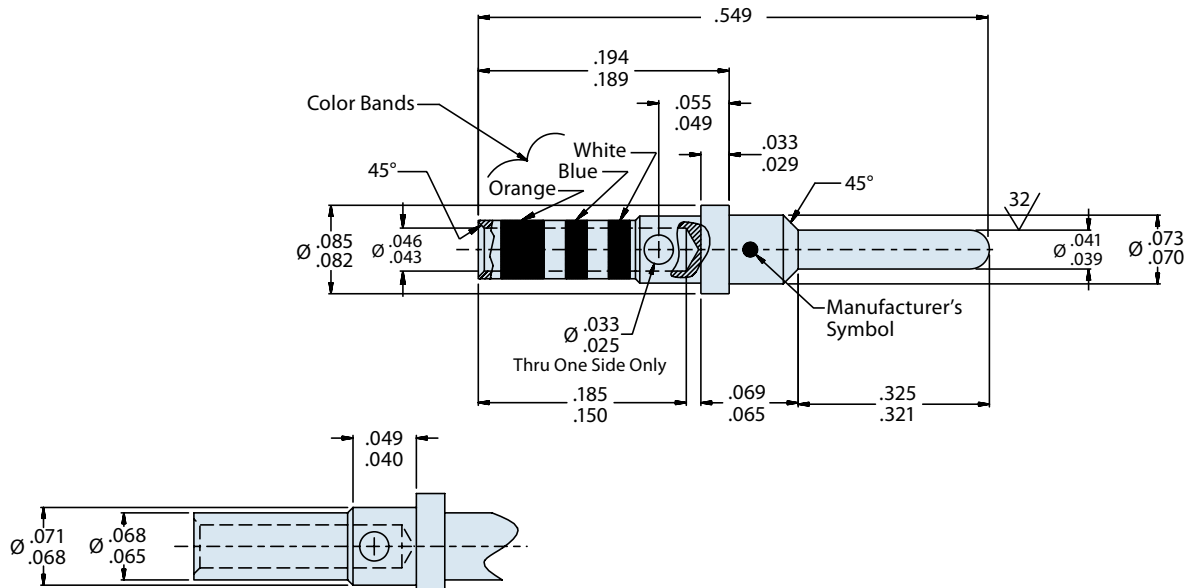
M24308

**Standard Pin Crimp Contact for MIL-DTL-24308**



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 20              | 20-24 AWG         | M39029/64-639        | 850-022-20-369      |

A



**Material and Finish\***

Pin Contact: Copper Alloy/Gold Plated  
 Socket Contact: Copper Alloy/Gold Plated  
 Socket Contact Hood: Passivated Stainless Steel

\*See pages A-4 and A-5 for detailed material specifications

**Tools**

Crimp Tool: M22520/2-01  
 Positioner: M22520/2-08  
 Insertion/Extraction Tools: M81969/14-02 or M81969/1-02





**M39029/83**  
**850-004**  
**Standard Duty Electrical Pin Contact**



AS39029

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | Ø B            | Ø C          | Color Bands |       |       |
|------|----------------|-----------------|----------------|--------------|-------------|-------|-------|
|      |                |                 |                |              | 1st         | 2nd   | 3rd   |
| 20   | 850-004-20-508 | M39029/83-508   | .050<br>.048   | .032<br>.026 | Green       | Black | Grey  |
| 20   | 850-004-20-450 | M39029/83-450   | .0355<br>.0335 | .032<br>.026 | Yellow      | Green | Black |
| 20   | 850-004-20-451 | M39029/83-451   | .0200<br>.0180 | .022<br>.018 | Yellow      | Green | Brown |

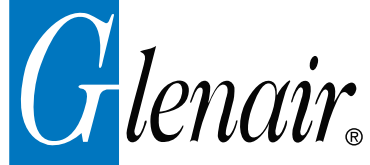
**A**

**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling | Crimp Tool   | Positioner   | Insertion Tool | Extraction Tool |
|------|----------------|-----------------|--------------|--------------|--------------|----------------|-----------------|
| 20   | 850-004-20-508 | M39029/83-508   | 20, 22, 24   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81969/34-01    |
| 20   | 850-004-20-450 | M39029/83-450   | 22, 24, 26   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81969/34-01    |
| 20   | 850-004-20-451 | M39029/83-451   | 28, 30, 32   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81696/34-01    |



**M39029/84  
850-005  
Standard Duty Electrical Socket Contact**



AS39029

A

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | Ø B            | Ø C          | Color Bands |       |        |
|------|----------------|-----------------|----------------|--------------|-------------|-------|--------|
|      |                |                 |                |              | 1st         | 2nd   | 3rd    |
| 20   | 850-005-20-509 | M39029/84-509   | .050<br>.048   | .032<br>.026 | Green       | Black | White  |
| 20   | 850-005-20-452 | M39029/84-452   | .0355<br>.0335 | .032<br>.026 | Yellow      | Green | Red    |
| 20   | 850-005-20-453 | M39029/84-453   | .0200<br>.0180 | .022<br>.018 | Yellow      | Green | Orange |

**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling | Crimp Tool   | Positioner   | Insertion Tool | Extraction Tool |
|------|----------------|-----------------|--------------|--------------|--------------|----------------|-----------------|
| 20   | 850-005-20-509 | M39029/84-509   | 20, 22, 24   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81969/34-01    |
| 20   | 850-005-20-452 | M39029/84-452   | 22, 24, 26   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81969/34-01    |
| 20   | 850-005-20-453 | M39029/84-453   | 28, 30, 32   | M22520/34-01 | M22520/34-02 | M81969/33-01   | M81696/34-01    |

D38999  
Ser. I, III, IV

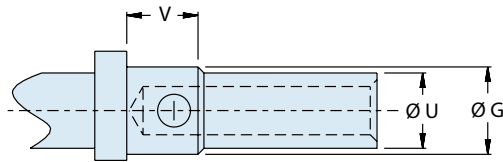
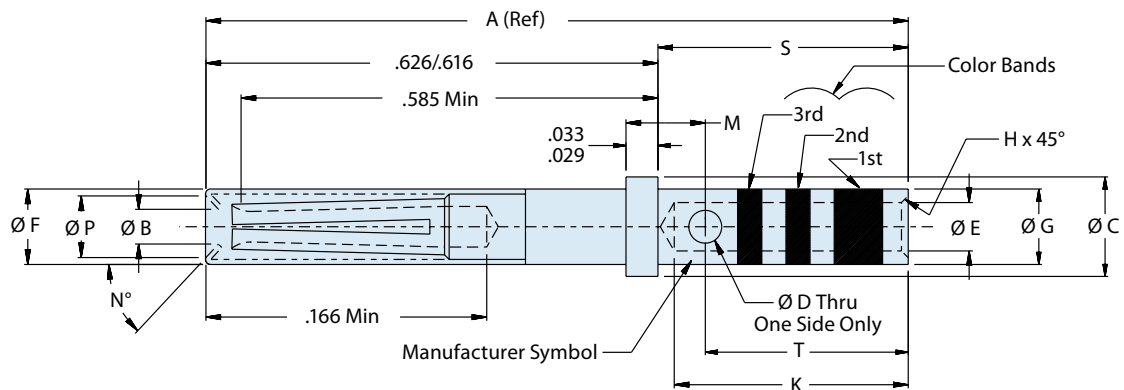
M29600

## Extended Duty Socket Crimp Contact for MIL-DTL-38999 Series I, III and IV Connectors

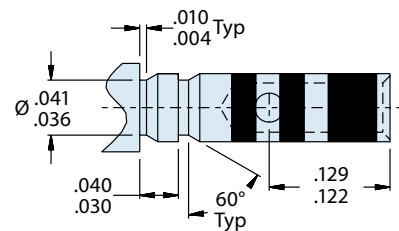
A



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 22              | 22-28 AWG         | M39029/106-614       | 850-006-22-614      |
| 20              | 20-24 AWG         | M39029/106-615       | 850-006-20-615      |
| 16              | 16-20 AWG         | M39029/106-616       | 850-006-16-616      |
| 12              | 12-14 AWG         | M39029/106-617       | 850-006-12-617      |
| 10              | 10 AWG            | M39029/106-618       | 850-006-10-618      |



-10-618 Only



-22-614 Only

### Material and Finish

Copper alloy, plated with 5 µinches gold over 45 µinches palladium alloy.  
Rated to 1500 cycles of durability.

**39029/106**  
**850-006**  
**Extended Duty Electrical Socket Contact**



AS39029

A

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | A (ref) | ø B Min. | ø C          | ø D          | ø E            | ø F Max. | ø G          | ø H          |
|------|----------------|-----------------|---------|----------|--------------|--------------|----------------|----------|--------------|--------------|
| 22   | 850-006-22-614 | M39029/106-614  | .855    | .031     | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .062     | .048<br>.046 | .005<br>.003 |
| 20   | 850-006-20-615 | M39029/106-615  |         | .0415    | .094<br>.091 | .032<br>.026 | .048<br>.046   | .078     | .070<br>.068 | .010<br>.005 |
| 16   | 850-006-16-616 | M39029/106-616  |         | .064     | .130<br>.127 | .042<br>.036 | .068<br>.066   | .113     | .103<br>.101 | .010<br>.005 |
| 12   | 850-006-12-617 | M39029/106-617  |         | .0955    | .182<br>.179 | .042<br>.036 | .102<br>.098   | .161     | .151<br>.148 | .016<br>.005 |
| 10   | 850-006-10-618 | M39029/106-618  | 1.021   | .1265    | .242<br>.238 | .052<br>.046 | .140<br>.134   | .215     | .213<br>.207 | .016<br>.005 |

**TABLE I: (Continued) CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | K Min.       | M            | N°             | ø P Min. | S            | ø U          | V            | Color Bands  |       |        |
|------|----------------|-----------------|--------------|--------------|----------------|----------|--------------|--------------|--------------|--------------|-------|--------|
|      |                |                 |              |              |                |          |              |              |              | 1st          | 2nd   | 3rd    |
| 22   | 850-006-22-614 | M39029/106-614  | .141         | -            | 50°<br>44°     | .047     | .237<br>.231 | -            | -            | Blue         | Brown | Yellow |
| 20   | 850-006-20-615 | M39029/106-615  | .209         | .078<br>.072 | 47°<br>40°     | .053     |              | -            | -            | Blue         | Brown | Green  |
| 16   | 850-006-16-616 | M39029/106-616  | .209         | .088<br>.082 | 47°<br>40°     | .084     |              | -            | -            | Blue         | Brown | Blue   |
| 12   | 850-006-12-617 | M39029/106-617  | .209         | .088<br>.082 | 47°<br>40°     | .118     |              | -            | -            | Blue         | Brown | Violet |
| 10   | 850-006-10-618 | M39029/106-618  | .385<br>.355 | .115<br>.108 | Full<br>Radius | .146     |              | .405<br>.395 | .183<br>.177 | .121<br>.111 | Blue  | Brown  |

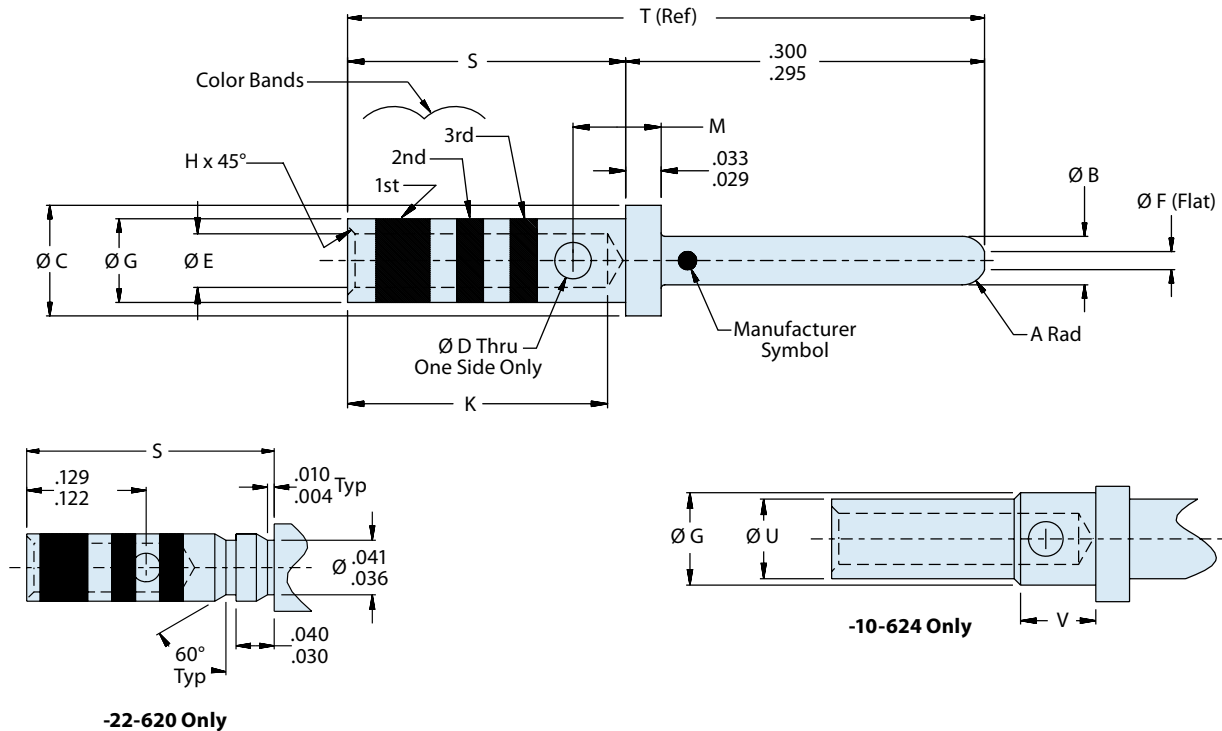
**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling   | Crimp Tool                                | Positioner                                      | Insertion Tool                  | Extraction Tool                 |
|------|----------------|-----------------|----------------|---|---|---------------------------------|---------------------------------|
| 22   | 850-006-22-614 | M39029/106-614  | 22, 24, 26, 28 | M22520/2-01<br>M22520/7-01                | M22520/2-07<br>M22520/7-05                      | M81969/8-01<br>M81969/14-01     | M81969/8-02<br>M81969/14-01     |
| 20   | 850-006-20-615 | M39029/106-615  | 20, 22, 24     | M22520/1-01<br>M22520/2-01<br>M22520/7-01 | M22520/1-04 (red)<br>M22520/2-10<br>M22520/7-08 | M81969/8-05<br>M81969/14-10     | M81969/8-06<br>M81969/14-10     |
| 16   | 850-006-16-616 | M39029/106-616  | 16, 18, 20     | M22520/1-01<br>M22520/7-01                | M22520/1-04 (blue)<br>M22520/7-04               | M81969/8-07<br>M81969/14-03     | M81969/8-08<br>M81969/14-03     |
| 12   | 850-006-12-617 | M39029/106-617  | 12, 14         | M22520/1-01                               | M22520/1-04 (yellow)                            | M81969/8-09<br>M81969/14-04     | M81969/8-10<br>M81969/14-03     |
| 10   | 850-006-10-618 | M39029/106-618  | 10             | Daniels 1716P-1                           | Daniels 1716P-1                                 | M81969/14-05<br>and M81969/8-11 | M81969/14-05 and<br>M81969/8-12 |

**D38999**  
 Ser. I, III, IV

**M29600**
**Extended Duty Pin Crimp Contact for MIL-DTL-38999 Series I, III and IV Connectors**
**A**


| Mating End Size | Wire Accomodation | Military Part Number  | Glenair Part Number   |
|-----------------|-------------------|-----------------------|-----------------------|
| 22              | 22-28 AWG         | <b>M39029/107-620</b> | <b>850-007-22-620</b> |
| 20              | 20-24 AWG         | <b>M39029/107-621</b> | <b>850-007-20-621</b> |
| 16              | 16-20 AWG         | <b>M39029/107-622</b> | <b>850-007-16-622</b> |
| 12              | 12-14 AWG         | <b>M39029/107-623</b> | <b>850-007-12-623</b> |
| 10              | 10 AWG            | <b>M39029/107-624</b> | <b>850-007-10-624</b> |


**Material and Finish**

Copper alloy, plated with 5 µinches gold over 45 µinches palladium alloy.  
 Rated to 1500 cycles of durability.

**M39029/107**  
**850-007**  
**Extended Duty Electrical Pin Contact**



AS39029

A

**TABLE I: CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | A Rad        | ø B            | ø C          | ø D          | ø E            | ø F          | ø G          | H            |
|------|----------------|-----------------|--------------|----------------|--------------|--------------|----------------|--------------|--------------|--------------|
| 22   | 850-007-22-620 | M39029/107-620  | .020<br>.010 | .0305<br>.0295 | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .011<br>max  | .048<br>.046 | .005<br>.003 |
| 20   | 850-007-20-621 | M39029/107-621  | .025<br>.015 | .041<br>.039   | .094<br>.091 | .032<br>.026 | .048<br>.046   | .015<br>max  | .070<br>.068 | .010<br>.005 |
| 16   | 850-007-16-622 | M39029/107-622  | .025<br>.020 | .0635<br>.0616 | .130<br>.127 | .042<br>.036 | .068<br>.066   | .030<br>.011 | .103<br>.101 | .010<br>.005 |
| 12   | 850-007-12-623 | M39029/107-623  | .025<br>.020 | .095<br>.093   | .182<br>.179 | .042<br>.036 | .102<br>.098   | .062<br>.043 | .151<br>.148 | .016<br>.005 |
| 10   | 850-007-10-624 | M39029/107-624  | .025<br>.020 | .126<br>.124   | .242<br>.238 | .052<br>.040 | .140<br>.134   | .094<br>.074 | .213<br>.207 | .016<br>.005 |

**TABLE I: (Continued) CONTACT DIMENSIONS**

| Size | Part Number    | Military Number | K            | M            | S            | T<br>(Ref) | ø U          | V            | Color Bands |     |        |
|------|----------------|-----------------|--------------|--------------|--------------|------------|--------------|--------------|-------------|-----|--------|
|      |                |                 |              |              |              |            |              |              | 1st         | 2nd | 3rd    |
| 22   | 850-007-22-620 | M39029/107-620  | .157<br>.141 | -            | .237<br>.231 | .531       | -            | -            | Blue        | Red | Black  |
| 20   | 850-007-20-621 | M39029/107-621  | .229<br>.209 | .078<br>.072 | .237<br>.231 | .531       | -            | -            | Blue        | Red | Brown  |
| 16   | 850-007-16-622 | M39029/107-622  | .229<br>.209 | .088<br>.082 | .237<br>.231 | .531       | -            | -            | Blue        | Red | Red    |
| 12   | 850-007-12-623 | M39029/107-623  | .229<br>.209 | .088<br>.082 | .237<br>.231 | .531       | -            | -            | Blue        | Red | Orange |
| 10   | 850-007-10-624 | M39029/107-624  | .385<br>.355 | .115<br>.108 | .405<br>.395 | .698       | .183<br>.177 | .121<br>.111 | Blue        | Red | Yellow |

**TABLE II: TOOL COMPATIBILITY**

| Size | Part Number    | Military Number | AWG Handling   | Crimp Tool                                | Positioner                                      | Insertion Tool                  | Extraction Tool                 |
|------|----------------|-----------------|----------------|---|---|---------------------------------|---------------------------------|
| 22   | 850-007-22-620 | M39029/107-620  | 22, 24, 26, 28 | M22520/2-01<br>M22520/7-01                | M22520/2-09<br>M22520/7-07                      | M81969/8-01<br>M81969/14-01     | M81969/8-02<br>M81969/14-01     |
| 20   | 850-007-20-621 | M39029/107-621  | 20, 22, 24     | M22520/1-01<br>M22520/2-01<br>M22520/7-01 | M22520/1-04 (red)<br>M22520/2-10<br>M22520/7-08 | M81969/8-05<br>M81969/14-10     | M81969/8-06<br>M81969/14-10     |
| 16   | 850-007-16-622 | M39029/107-622  | 16, 18, 20     | M22520/1-01<br>M22520/7-01                | M22520/1-04 (blue)<br>M22520/7-04               | M81969/8-07<br>M81969/14-03     | M81969/8-08<br>M81969/14-03     |
| 12   | 850-007-12-623 | M39029/107-623  | 12, 14         | M22520/1-01                               | M22520/1-04<br>(yellow)                         | M81969/8-09<br>M81969/14-04     | M81969/8-10<br>M81969/14-04     |
| 10   | 850-007-10-624 | M39029/107-624  | 10             | Daniels 1716P-1                           | Daniels 1716P-1                                 | M81969/14-05<br>and M81969/8-11 | M81969/14-05 and<br>M81969/8-12 |

SERIES 257-606

# QUADRAX

## Glenair MIL-DTL-38999 Series III Type Quadrax Connectors



**G**lenair doesn't just make a complete range of high-frequency shielded contacts. We also make the connector packaging too—from Quadrax equipped circular connectors to Coax-equipped ARINC's, D-Subminiatures and our own Series 79 Micro-Crimp. As we like to say, we produce the complete solution—soup to nuts. And because we have decades of experience with all classes of high performance connectors, we're well positioned to design and manufacture a truly complete interconnect solution, including wire and cable, contacts, connectors, shielding, backshells, dust caps, shrink boots, you name it. Simply put, nobody else in the interconnect industry can offer such a comprehensive solution. Sure, we're happy to just be your contact supplier. But if you like our high-availability approach to that business (ample manufacturing capacity, same-day shipment inventory and the best and most available technical support team in the industry) we're thinking you'll love the service and support we bring to all our product lines. So give us a try. We promise you'll appreciate the extra value of working with a supplier that truly understands what availability is all about.





# Shielded Contacts

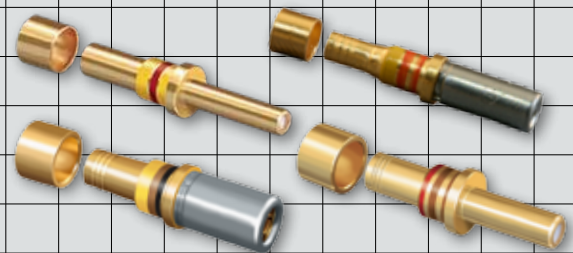
## High Performance: Coax, Twinax and Quadrax

### *From Coax...*

Shielded coaxial contacts have a special role in the interconnect system and are designed for use in a wide range of military and aerospace connectors that service analog radio frequency or microwave applications. Most Glenair cylindrical connectors, including our D38999 type, can accommodate shielded contacts. Rectangular connector packages, such as our high-performance HiPer-D are also ideally suited for these shielded contacts.

### *...to Twinax and Quadrax*

High-speed differential impedance contacts, such as those used in advanced digital communications applications, are another key specialty at Glenair. Our Twinax and Quadrax contacts are exactly engineered and manufactured using the best available materials and manufacturing processes. Conductive elements are gold-plated copper alloy. Dielectrics are high-performance fluorocarbon. When applicable, our shielded contacts are approved to SAE AS39029.



B

- ◆ Qualified to SAE-AS39029 on Dozens of Contacts—and Growing!
- ◆ Same Day Inventory on Popular and Hard-to-Find Styles
- ◆ Highest Quality Materials Including Enhanced Durability Plating
- ◆ Fully Intermatable with Equivalent AS39029 Contacts



## High Performance Shielded Contacts Cross Reference

| Military Part Number | Glenair Part Number | Contact Size | Pin / Socket | Type    | BIN Color Striping |       |        | Product Page |
|----------------------|---------------------|--------------|--------------|---------|--------------------|-------|--------|--------------|
|                      |                     |              |              |         |                    |       |        |              |
| M39029/27-210        | 852-001-12-210      | 12           | Socket       | Coaxial | Red                | Brown | Black  | B-4          |
| M39029/27-402        | 852-001-12-402      | 12           | Socket       | Coaxial | Yellow             | Black | Red    |              |
| M39029/27-403        | 852-001-12-403      | 12           | Socket       | Coaxial | Yellow             | Black | Orange |              |
| M39029/27-404        | 852-001-12-404      | 12           | Socket       | Coaxial | Yellow             | Black | Yellow |              |
| M39029/27-405        | 852-001-12-405      | 12           | Socket       | Coaxial | Yellow             | Black | Green  |              |
| M39029/27-406        | 852-001-12-406      | 12           | Socket       | Coaxial | Yellow             | Black | Blue   |              |
| M39029/27-407        | 852-001-12-407      | 12           | Socket       | Coaxial | Yellow             | Black | Violet |              |
| M39029/27-408        | 852-001-12-408      | 12           | Socket       | Coaxial | Yellow             | Black | Gray   |              |
| M39029/28-211        | 852-002-12-211      | 12           | Pin          | Coaxial | Red                | Brown | Brown  |              |
| M39029/28-409        | 852-002-12-409      | 12           | Pin          | Coaxial | Yellow             | Black | White  |              |
| M39029/28-410        | 852-002-12-410      | 12           | Pin          | Coaxial | Yellow             | Brown | Black  |              |
| M39029/28-411        | 852-002-12-411      | 12           | Pin          | Coaxial | Yellow             | Brown | Brown  |              |
| M39029/28-412        | 852-002-12-412      | 12           | Pin          | Coaxial | Yellow             | Brown | Red    |              |
| M39029/28-413        | 852-002-12-413      | 12           | Pin          | Coaxial | Yellow             | Brown | Orange |              |
| M39029/28-414        | 852-002-12-414      | 12           | Pin          | Coaxial | Yellow             | Brown | Yellow |              |
| M39029/28-415        | 852-002-12-415      | 12           | Pin          | Coaxial | Yellow             | Brown | Green  |              |
| M39029/59-366        | 852-006-08-366      | 08           | Socket       | Coaxial | Orange             | Blue  | Blue   | B-14         |
| M39029/60-367        | 852-007-08-367      | 08           | Pin          | Coaxial | Orange             | Blue  | Violet | B-15         |
| M39029/75-416        | 852-003-12-416      | 12           | Socket       | Coaxial | Yellow             | Brown | Blue   | B-8          |
| M39029/75-417        | 852-003-12-417      | 12           | Socket       | Coaxial | Yellow             | Brown | Violet |              |
| M39029/75-418        | 852-003-12-418      | 12           | Socket       | Coaxial | Yellow             | Brown | Gray   |              |
| M39029/75-419        | 852-003-12-419      | 12           | Socket       | Coaxial | Yellow             | Brown | White  |              |
| M39029/75-420        | 852-003-12-420      | 12           | Socket       | Coaxial | Yellow             | Red   | Black  |              |
| M39029/75-421        | 852-003-12-421      | 12           | Socket       | Coaxial | Yellow             | Red   | Brown  |              |
| M39029/75-422        | 852-003-12-422      | 12           | Socket       | Coaxial | Yellow             | Red   | Red    |              |
| M39029/75-423        | 852-003-12-423      | 12           | Socket       | Coaxial | Yellow             | Red   | Orange |              |
| M39029/76-424        | 852-008-16-424      | 16           | Pin          | Coaxial | Yellow             | Red   | Yellow |              |
| M39029/76-425        | 852-008-16-425      | 16           | Pin          | Coaxial | Yellow             | Red   | Green  |              |

# High Performance Shielded Contacts Cross Reference



| Military Part Number | Glenair Part Number | Contact Size | Pin / Socket | Type              | BIN Color Striping |         |         | Product Page |
|----------------------|---------------------|--------------|--------------|-------------------|--------------------|---------|---------|--------------|
|                      |                     |              |              |                   | Color 1            | Color 2 | Color 3 |              |
| M39029/76-426        | 852-008-16-426      | 16           | Pin          | Coaxial           | Yellow             | Red     | Blue    | B-16         |
| M39029/76-427        | 852-008-16-427      | 16           | Pin          | Coaxial           | Yellow             | Red     | Violet  |              |
| M39029/77-428        | 852-009-16-428      | 16           | Socket       | Coaxial           | Yellow             | Red     | Gray    | B-18         |
| M39029/77-429        | 852-009-16-429      | 16           | Socket       | Coaxial           | Yellow             | Red     | White   |              |
| M39029/77-430        | 852-009-16-430      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Black   |              |
| M39029/77-431        | 852-009-16-431      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Brown   |              |
| M39029/78-432        | 852-010-16-432      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Red     | B-20         |
| M39029/78-433        | 852-010-16-433      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Orange  |              |
| M39029/78-434        | 852-010-16-434      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Yellow  |              |
| M39029/78-435        | 852-010-16-435      | 16           | Socket       | Coaxial           | Yellow             | Orange  | Green   |              |
| M39029/90-529        | 853-001-08-529      | 8            | Pin          | Concentric Twinax | Green              | Red     | White   | B-22         |
| M39029/91-530        | 853-002-08-530      | 8            | Socket       | Concentric Twinax | Green              | Orange  | Black   | B-23         |
| M39029/102-558       | 852-004-12-558      | 12           | Pin          | Coaxial           | Green              | Green   | Gray    | B-10         |
| M39029/103-559       | 852-005-12-559      | 12           | Socket       | Coaxial           | Green              | Green   | White   | B-12         |
| M39029/113-625       | 853-003-08-625      | 8            | Pin          | Concentric Twinax | Blue               | Red     | Green   | B-24         |
| M39029/113-626       | 853-003-08-626      | 8            | Pin          | Concentric Twinax | Blue               | Red     | Blue    |              |
| M39029/114-628       | 853-004-08-628      | 8            | Socket       | Concentric Twinax | Blue               | Red     | Gray    | B-25         |
| M39029/114-629       | 853-004-08-629      | 8            | Socket       | Concentric Twinax | Blue               | Red     | White   |              |
| N/A                  | 854-001-01          | 8            | Pin          | Quadrax           | N/A                |         |         | B-26         |
| N/A                  | 854-001-02          | 8            | Pin          | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-001-03          | 8            | Pin          | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-001-04          | 8            | Pin          | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-001-05          | 8            | Pin          | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-002-01          | 8            | Socket       | Quadrax           | N/A                |         |         | B-27         |
| N/A                  | 854-002-02          | 8            | Socket       | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-002-03          | 8            | Socket       | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-002-04          | 8            | Socket       | Quadrax           | N/A                |         |         |              |
| N/A                  | 854-002-05          | 8            | Socket       | Quadrax           | N/A                |         |         |              |

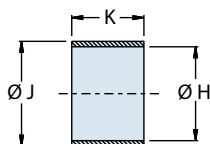
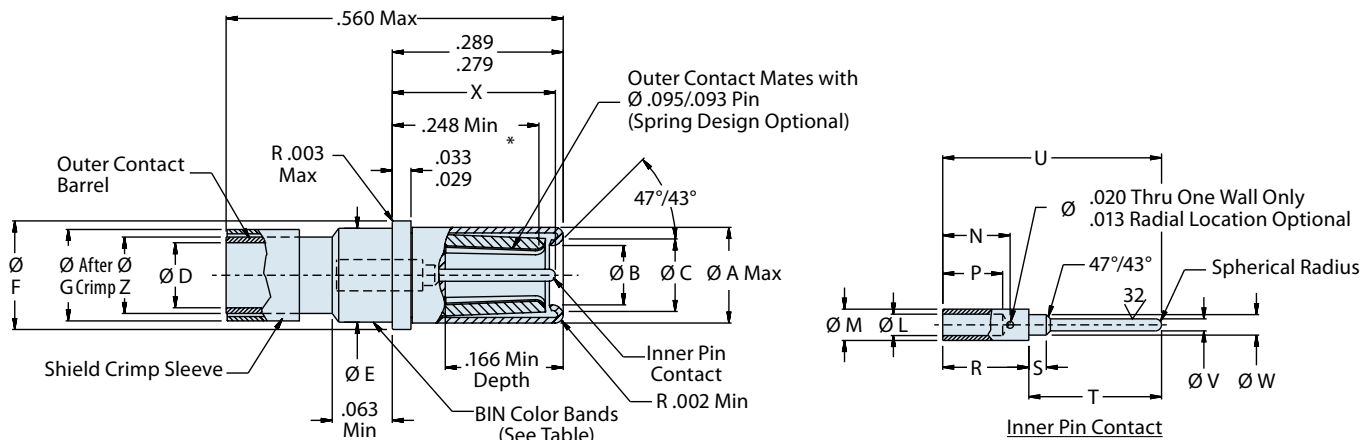
**D38999**  
 Series II

**Size #12 Coaxial Socket Contacts for MIL-DTL-38999 Series II Connectors**


These #12 contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 1000 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance.

**B**

| Type   | Cable Accommodation                  | Part Number           | Military Part Number | Color Band |       |        |
|--------|--------------------------------------|-----------------------|----------------------|------------|-------|--------|
|        |                                      |                       |                      | 1st        | 2nd   | 3rd    |
| Socket | RG174, RG316, RG179                  | <b>852-001-12-210</b> | M39029/27-210        | Red        | Brown | Black  |
|        | RG180                                | <b>852-001-12-402</b> | M39029/27-402        | Yellow     | Black | Red    |
|        | Microdot 250-4070                    | <b>852-001-12-403</b> | M39029/27-403        | Yellow     | Black | Orange |
|        | Raychem 48-502, 5022E5111            | <b>852-001-12-404</b> | M39029/27-404        | Yellow     | Black | Yellow |
|        | Raychem 48-950, 9530D5117            | <b>852-001-12-405</b> | M39029/27-405        | Yellow     | Black | Green  |
|        | Raychem 7624D1311, 9527A1318         | <b>852-001-12-406</b> | M39029/27-406        | Yellow     | Black | Blue   |
|        | Gore GWN1159A                        | <b>852-001-12-407</b> | M39029/27-407        | Yellow     | Black | Violet |
|        | 1550MU-16, -20, -40, -70 (D24643/28) | <b>852-001-12-408</b> | M39029/27-408        | Yellow     | Black | Gray   |



Shield Crimp Sleeve

**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Hood: Stainless Steel/Passivated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Copper Alloy/Gold Plated  
 Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring

**M39029/27**  
**852-001**  
**Size 12 Coaxial Socket**



Shielded  
Contacts

B

**Table I**

| BIN Code | ØA Max      | ØB                           | ØC                         | ØD Max      | ØE                           | ØF                         | ØG Max      | ØH Min      | ØJ Max      | K                         | ØL Min      |
|----------|-------------|------------------------------|----------------------------|-------------|------------------------------|----------------------------|-------------|-------------|-------------|---------------------------|-------------|
| 210      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.225 (5.7) |
| 402      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.108 (2.7) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.144 (3.7) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.225 (5.7) |
| 403      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.108 (2.7) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.144 (3.7) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.355 (9.0) |
| 404      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.355 (9.0) |
| 405      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.225 (5.7) |
| 406      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.117 (3.0) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.156 (4.0) | 0.174 (4.4) | 0.125 (3.2)<br>0.115(2.9) | 0.27 (6.9)  |
| 407      | 0.161 (4.1) | 0.100 (2.54)<br>0.097 (2.46) | 0.123 (3.1)<br>0.118 (3.0) | 0.090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.144 (3.7) | 0.169 (4.3) | 0.125 (3.2)<br>0.115(2.9) | 0.225 (5.7) |
| 408      | 0.161 (4.1) | 0.100 (2.54)                 | 0.123 (3.1)<br>0.118 (3.0) | 0.108 (2.7) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.6)<br>0.179 (4.5) | 0.156 (4.0) | 0.156 (4.0) | 0.174 (4.4) | 0.125 (3.2)<br>0.115(2.9) | 0.355 (9.0) |

**Table I (continued)**

| BIN Code | ØM Max      | N Min       | P                          | R                          | S                          | T                            | U Ref       | ØV                            | ØW                        | X                          | ØZ Max      |
|----------|-------------|-------------|----------------------------|----------------------------|----------------------------|------------------------------|-------------|-------------------------------|---------------------------|----------------------------|-------------|
| 210      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.110 (2.8) |
| 402      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.127 (3.2) |
| 403      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.127 (3.2) |
| 404      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.110 (2.8) |
| 405      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.110 (2.8) |
| 406      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.136       |
| 407      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.110 (2.8) |
| 408      | 0.052 (1.3) | 0.112 (2.8) | 0.103 (2.6)<br>0.096 (2.4) | 0.146 (3.7)<br>0.140 (3.6) | 0.039 (1.0)<br>0.033 (0.8) | 0.222 (5.64)<br>0.219 (5.56) | 0.364 (9.2) | 0.0205 (0.52)<br>0.0195 (0.5) | 0.035(0.9)<br>0.033 (0.8) | 0.276 (7.0)<br>0.266 (6.8) | 0.127 (3.2) |

**Table III**

| Inner Contact       |             | Outer Contact       |              | Insertion Tool                 | Extraction Tool                |
|---------------------|-------------|---------------------|--------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner   |                                |                                |
| M22520/2-01         | M22520/2-34 | M22520/31-01        | M22520/31-02 | M81969/8-09 or<br>M81969/14-04 | M81969/8-10 or<br>M81969/14-04 |

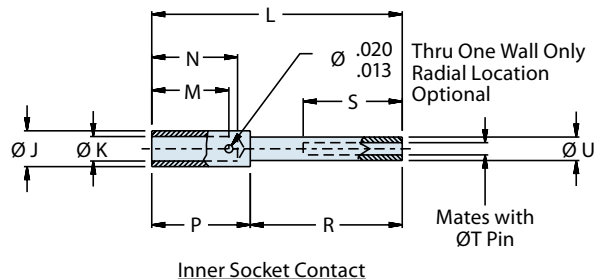
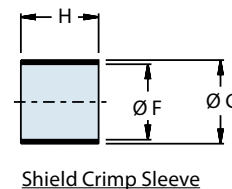
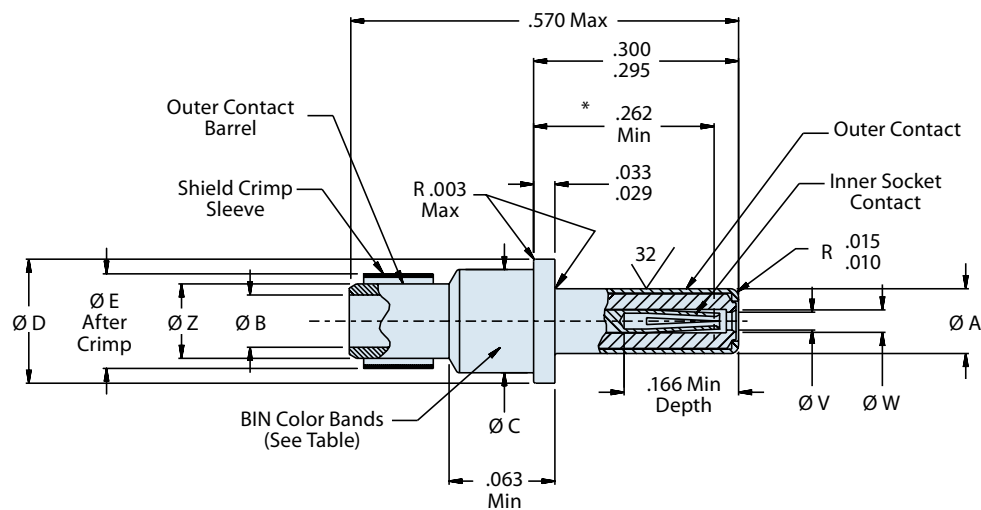
**D38999**  
 Ser. I, II, III, IV

**Size #12 Coaxial Pin Contacts for MIL-DTL-38999 Series I, II, III and IV Connectors**


These #12 pin contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 1000 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/75.

**B**

| Type | Cable Accommodation                  | Part Number           | Military Part Number | Color Band |       |        |
|------|--------------------------------------|-----------------------|----------------------|------------|-------|--------|
|      |                                      |                       |                      | 1st        | 2nd   | 3rd    |
| Pin  | RG174, RG316, RG179                  | <b>852-002-12-211</b> | M39029/28-211        | Red        | Brown | Brown  |
|      | RG180                                | <b>852-002-12-409</b> | M39029/28-409        | Yellow     | Black | White  |
|      | Microdot 250-4070                    | <b>852-002-12-410</b> | M39029/28-410        | Yellow     | Brown | Black  |
|      | Raychem 48-502, 5022E5111            | <b>852-002-12-411</b> | M39029/28-411        | Yellow     | Brown | Brown  |
|      | Raychem 48-950, 9530D5117            | <b>852-002-12-412</b> | M39029/28-412        | Yellow     | Brown | Red    |
|      | Raychem 762D1311, 9527A1318          | <b>852-002-12-413</b> | M39029/28-413        | Yellow     | Brown | Orange |
|      | Gore GWN1159A, M17/152-00001         | <b>852-002-12-414</b> | M39029/28-414        | Yellow     | Brown | Yellow |
|      | 1S50MU-16, -20, -40, -70 (D24643/28) | <b>852-002-12-415</b> | M39029/28-415        | Yellow     | Brown | Green  |


**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Copper Alloy/Gold Plated  
 Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring

**M39029/28**  
**852-002**  
**Size 12 Coaxial Pin**



Shielded  
Contacts

**B**

**Table I**

| BIN Code | ØA                           | ØB Min     | ØC                           | ØD                           | ØE Max      | ØF Min      | ØG Max      | H                          | ØJ Max      | ØK Min       | ØL Ref      |
|----------|------------------------------|------------|------------------------------|------------------------------|-------------|-------------|-------------|----------------------------|-------------|--------------|-------------|
| 211      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0225 (0.6) | 0.363 (9.2) |
| 409      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.144 (3.7) | 0.169 (4.3) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0225 (0.6) | 0.363 (9.2) |
| 410      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.144 (3.7) | 0.169 (4.3) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0355 (0.9) | 0.363 (9.2) |
| 411      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0355 (0.9) | 0.363 (9.2) |
| 412      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.127 (3.2) | 0.169 (4.3) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0225 (0.6) | 0.363 (9.2) |
| 413      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.156 (4.0) | 0.174 (4.4) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0270 (0.7) | 0.363 (9.2) |
| 414      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.138 (3.5) | 0.174 (4.4) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0225 (0.6) | 0.363 (9.2) |
| 415      | 0.095 (2.41)<br>0.093 (2.36) | .090 (2.3) | 0.151 (3.84)<br>0.148 (3.76) | 0.182 (4.62)<br>0.179 (4.55) | 0.156 (4.0) | 0.156 (4.0) | 0.174 (4.4) | 0.125 (3.2)<br>0.115 (2.9) | 0.052 (1.3) | 0.0355 (0.9) | 0.363 (9.2) |

**Table I (continued)**

| BIN Code | M                          | N Min       | P                          | R                            | S Min       | T                              | U                          | ØV                         | ØW                         | ØZ Max      |
|----------|----------------------------|-------------|----------------------------|------------------------------|-------------|--------------------------------|----------------------------|----------------------------|----------------------------|-------------|
| 211      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.110 (2.8) |
| 409      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.127 (3.2) |
| 410      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.127 (3.2) |
| 411      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.110 (2.8) |
| 412      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.110 (2.8) |
| 413      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.136 (3.5) |
| 414      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.110 (2.8) |
| 415      | 0.103 (2.6)<br>0.096 (2.4) | 0.112 (2.8) | 0.146 (3.7)<br>0.140 (3.6) | 0.222 (5.64)<br>0.219 (5.56) | 0.156 (4.0) | 0.0205 (0.52)<br>0.0195 (0.50) | 0.035 (0.9)<br>0.033 (0.8) | 0.027 (0.7)<br>0.025 (0.6) | 0.058 (1.5)<br>0.055 (1.4) | 0.127 (3.2) |

**Table III**

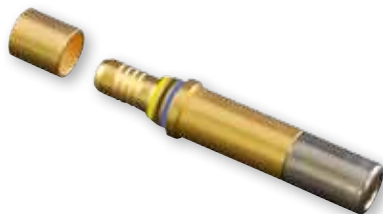
| Inner Contact       |             | Outer Contact       |              | Insertion Tool                 | Extraction Tool                |
|---------------------|-------------|---------------------|--------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner   |                                |                                |
| M22520/2-01         | M22520/2-34 | M22520/31-01        | M22520/31-02 | M81969/8-09 or<br>M81969/14-04 | M81969/8-10 or<br>M81969/14-04 |



**M39029/75**  
**852-003**  
**Size 12 Coaxial Socket**

**D38999**  
Ser. I, III, IV

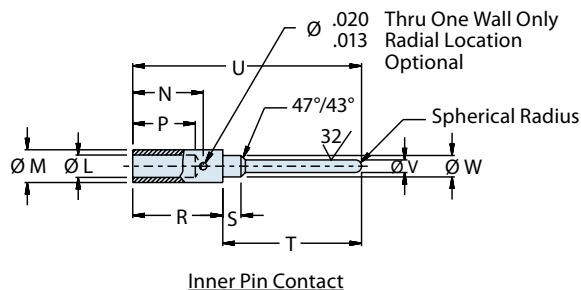
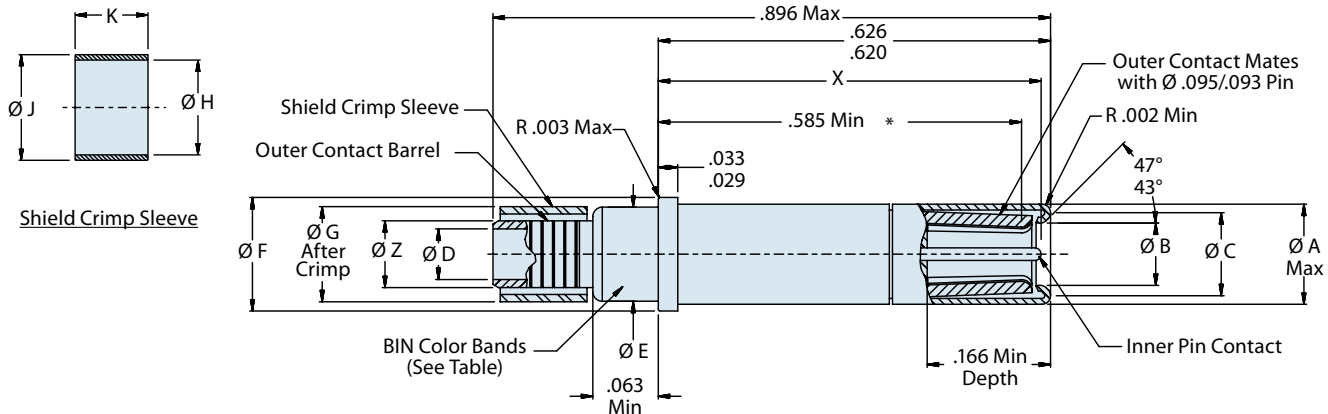
**Size #12 Coaxial Socket Contacts for MIL-DTL-38999 Series I, III and IV Connectors**



These #12 socket contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 1000 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/28.

**B**

| Type   | Cable Accommodation  | Part Number           | Military Part Number | Color Band |       |        |
|--------|--|-----------------------|----------------------|------------|-------|--------|
|        |  |                       |                      | 1st        | 2nd   | 3rd    |
| Socket | M17/119-RG174, M17/113-RG316, M17/094-RG179, Times AA3248, Teledyne 11299, Haveg 8100207, Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1 | <b>852-003-12-416</b> | M39029/75-416        | Yellow     | Brown | Blue   |
|        | M17/095-RG, Raychem 9527D1514-2L, Raychem 9528A1318, Microdot 293-3922   | <b>852-003-12-417</b> | M39029/75-417        | Yellow     | Brown | Violet |
|        | Microdot 250-4070  | <b>852-003-12-418</b> | M39029/75-418        | Yellow     | Brown | Gray   |
|        | Raychem 48-502, 5022E5111  | <b>852-003-12-419</b> | M39029/75-419        | Yellow     | Brown | White  |
|        | Raychem 48-950, 9530D5117  | <b>852-003-12-420</b> | M39029/75-420        | Yellow     | Red   | Black  |
|        | Raychem 7624D1311, 9527A1318   | <b>852-003-12-421</b> | M39029/75-421        | Yellow     | Red   | Brown  |
|        | Gore GWN1159A, M17/152-00001   | <b>852-003-12-422</b> | M39029/75-422        | Yellow     | Red   | Red    |
|        | 1550MU-16, -20, -40, -70 (D24643/28)   | <b>852-003-12-423</b> | M39029/75-423        | Yellow     | Red   | Orange |



**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
Hood: Stainless Steel/Passivated  
Center Contact: Copper Alloy/Gold Plated  
Crimp Sleeve: Copper Alloy/Gold Plated  
Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring



**M39029/75**  
**852-003**  
**Size 12 Coaxial Socket**



**Table I**

| BIN Code | ØA Max      | ØB                         | ØC                       | ØD Max      | ØE                         | ØF                       | ØG Max     | ØH Min     | ØJ Max      | K                        | ØL Min      |
|----------|-------------|----------------------------|--------------------------|-------------|----------------------------|--------------------------|------------|------------|-------------|--------------------------|-------------|
| 416      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .090 (2.3)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .127 (3.2) | .169 (4.3)  | .125 (3.2)<br>.115 (2.9) | .0225 (.57) |
| 417      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .108 (2.7)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .144 (3.7) | .169 (4.3)  | .125 (3.2)<br>.115 (2.9) | .0225 (.57) |
| 418      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .108 (2.7)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .144 (3.7) | .169 (4.3)  | .125 (3.2)<br>.115 (2.9) | .0355 (.90) |
| 419      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .090 (2.3)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .127 (3.2) | .169 (4.3)  | .125 (3.2)<br>.115 (2.9) | .0355 (.90) |
| 420      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .090 (2.3)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .127 (3.2) | .169 (4.3)  | .125 (3.2)<br>.115 (2.9) | .0225 (.57) |
| 421      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | 0.117 (3.0) | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .156 (4.0) | 0.174 (4.4) | .125 (3.2)<br>.115 (2.9) | .0270 (.70) |
| 422      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .090 (2.3)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .138 (3.5) | 0.174 (4.4) | .125 (3.2)<br>.115 (2.9) | .0225 (.57) |
| 423      | 0.161 (4.1) | .100 (2.54)<br>.097 (2.46) | .123 (3.1)<br>.118 (3.0) | .108 (2.7)  | .151 (3.84)<br>.148 (3.76) | .182 (4.6)<br>.179 (4.5) | .156 (4.0) | .156 (4.0) | 0.174 (4.4) | .125 (3.2)<br>.115 (2.9) | .0355 (.90) |

**Table I (Continued)**

| BIN Code | ØM Max     | N Min       | P                        | R                        | S                        | T                          | U Ref       | ØV                         | ØW                       | X                          | ØZ Max     |
|----------|------------|-------------|--------------------------|--------------------------|--------------------------|----------------------------|-------------|----------------------------|--------------------------|----------------------------|------------|
| 416      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .110 (2.8) |
| 417      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .127 (3.2) |
| 418      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .127 (3.2) |
| 419      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .110 (2.8) |
| 420      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .110 (2.8) |
| 421      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .136 (3.5) |
| 422      | .052 (1.3) | .112 (2.8)  | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .110 (2.8) |
| 423      | .052 (1.3) | 0.355 (9.0) | .103 (2.6)<br>.096 (2.4) | .146 (3.7)<br>.140 (3.6) | .039 (1.0)<br>.033 (0.8) | .222 (5.64)<br>.219 (5.56) | .3635 (9.2) | .0205 (.52)<br>.0195 (.50) | .035 (0.9)<br>.033 (0.8) | .613 (15.6)<br>.603 (15.3) | .127 (3.2) |

**Table III**

| Inner Contact       |             | Outer Contact       |              | Insertion Tool   | Extraction Tool  |
|---------------------|-------------|---------------------|--------------|--|--|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner   |  |  |
| M22520/2-01         | M22520/2-34 | M22520/31-01        | M22520/31-02 | M81969/8-09 or M81969/14-04;<br>DAK95-12B or DAK264-12 | M81969/8-10 or M81969/14-04;<br>DRK95-12B or DRK264-12 |



M39029/102  
852-004  
Size 12 Coaxial Pin

D38999  
Ser. I, II, III, IV

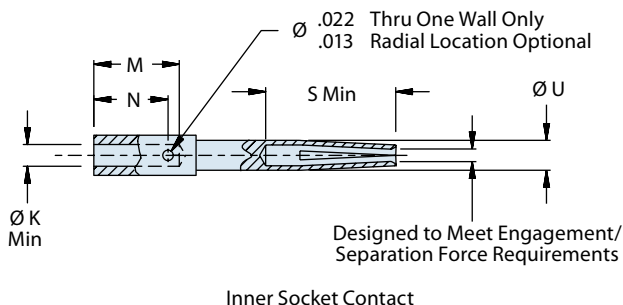
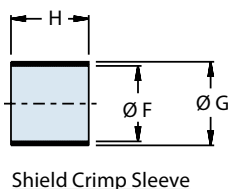
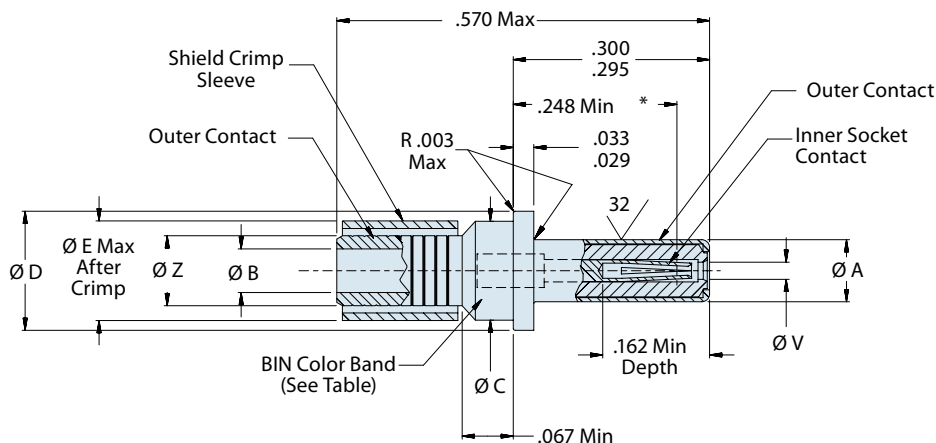
**Size #12 Coaxial Pin Contacts for MIL-DTL-38999 Series I, II, III and IV Connectors**



These contacts offer improved frequency response compared to standard coaxial contacts. VSWR is 1.32:1 at 3GHz. Nominal impedance is 50 ohms. Insertion loss at 3GHz is 0.20 dB maximum. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV voltage rating is 1000 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. Inner and outer contacts are gold-plated copper alloy. 5000 megohm insulation resistance.

B

| Type | Cable Accommodation            | Part Number           | Military Part Number | Color Band |       |      |
|------|--------------------------------|-----------------------|----------------------|------------|-------|------|
|      |                                |                       |                      | 1st        | 2nd   | 3rd  |
| Pin  | M17/113-RG316<br>M17/094-RG179 | <b>852-004-12-558</b> | M39029/102-558       | Green      | Green | Gray |



**M39029/102**  
**852-004**  
**Size 12 Coaxial Pin**



**Table I**

| BIN Code | ØA                         | ØB Min     | ØC                         | ØD                         | ØE Max     | ØF Min     | ØG Max     |
|----------|----------------------------|------------|----------------------------|----------------------------|------------|------------|------------|
| 558      | .095 (2.41)<br>.093 (2.39) | .066 (1.7) | .151 (3.84)<br>.148 (3.76) | .182 (4.62)<br>.179 (4.55) | .156 (4.0) | .127 (3.2) | .169 (4.3) |

**Table I (continued)**

| BIN Code | H                        | ØK Min    | M                        | N                        | S Min      | U                      | ØV                     | ØZ Max     |
|----------|--------------------------|-----------|--------------------------|--------------------------|------------|------------------------|------------------------|------------|
| 558      | .180 (4.6)<br>.170 (4.3) | .022 (.6) | .088 (2.2)<br>.063 (1.6) | .100 (2.5)<br>.084 (2.1) | .135 (3.4) | .035 (.9)<br>.031 (.8) | .027 (.7)<br>.025 (.6) | .110 (2.8) |

**Table III**

| Inner Contact       |                             | Outer Contact       |             | Insertion Tool                 | Extraction Tool                |
|---------------------|-----------------------------|---------------------|-------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner                  | Basic Crimping Tool | Die         |                                |                                |
| Daniels MH992       | Glenair 859-006<br>or K1721 | M22520/5-01         | M22520/5-03 | M81969/8-09 or<br>M81969/14-04 | M81969/8-10 or<br>M81969/14-04 |

**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
Hood: Stainless Steel/Passivated  
Center Contact: Copper Alloy/Gold Plated  
Crimp Sleeve: Copper Alloy/Gold Plated  
Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring



**M39029/103**  
**852-005**  
**Size 12 Coaxial Socket**

**D38999**  
Ser. I, III, IV

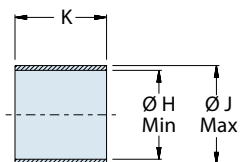
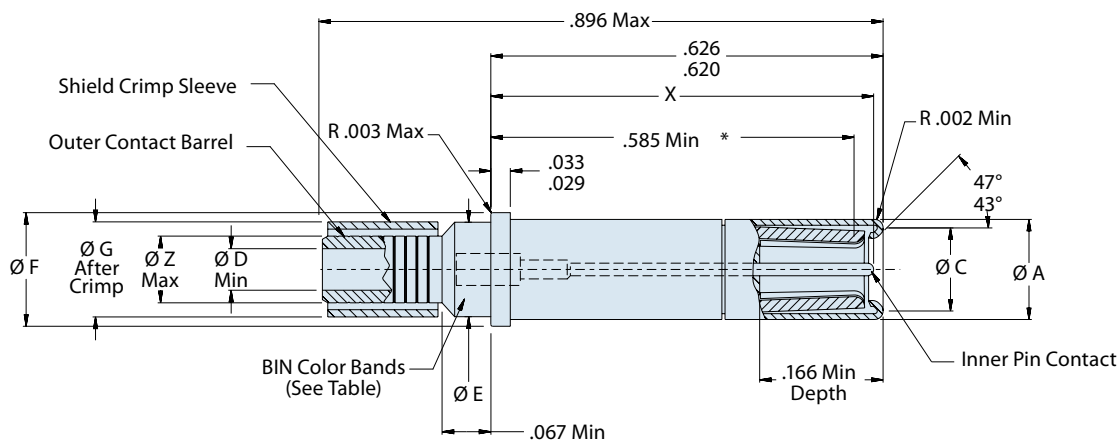
## Size #12 Coaxial Socket Contacts for MIL-DTL-38999 Series I, III and IV Connectors



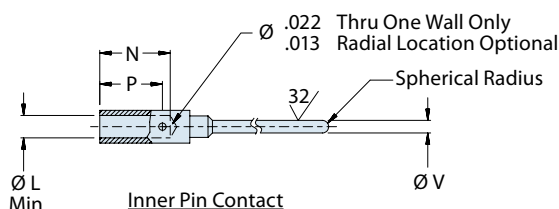
These contacts offer improved frequency response compared to standard coaxial contacts. VSWR is 1.32:1 at 3GHz. Nominal impedance is 50 ohms. Insertion loss at 3GHz is 0.20 dB maximum. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV voltage rating is 1000 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. Inner and outer contacts are gold-plated copper alloy. 5000 megohm insulation resistance.

**B**

| Type   | Cable Accommodation | Part Number           | Military Part Number | Color Band |       |       |
|--------|---------------------|-----------------------|----------------------|------------|-------|-------|
|        |                     |                       |                      | 1st        | 2nd   | 3rd   |
| Socket | M17/113-RG316       | <b>852-005-12-559</b> | M39029/103-559       | Green      | Green | White |
|        | M17/094-RG179       |                       |                      |            |       |       |



Shield Crimp Sleeve



Inner Pin Contact

**M39029/103**  
**852-005**  
**Size 12 Coaxial Socket**



**Table I**

| BIN Code | ØA                         | ØC                       | ØD                       | ØE                         | ØF                         | ØG Max        | ØH Max        | ØJ Max        |
|----------|----------------------------|--------------------------|--------------------------|----------------------------|----------------------------|---------------|---------------|---------------|
| 559      | .160 (4.06)<br>.158 (4.01) | .123 (3.1)<br>.118 (3.0) | .069 (1.8)<br>.066 (1.7) | .151 (3.84)<br>.148 (3.76) | .182 (4.62)<br>.179 (4.55) | .156<br>(4.0) | .127<br>(3.2) | .169<br>(4.3) |

**Table I (continued)**

| BIN Code | K                        | ØL Min       | N                        | P                        | ØV                         | X                          | ØZ Max        |
|----------|--------------------------|--------------|--------------------------|--------------------------|----------------------------|----------------------------|---------------|
| 559      | .180 (4.6)<br>.170 (4.3) | .022<br>(.6) | .100 (2.5)<br>.084 (2.1) | .088 (2.2)<br>.063 (1.6) | .0205 (.52)<br>.0195 (.50) | .613 (15.6)<br>.603 (15.3) | .110<br>(2.8) |

**Table III**

| Inner Contact       |             | Outer Contact       |             | Insertion Tool                 | Extraction Tool                |
|---------------------|-------------|---------------------|-------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Die         |                                |                                |
| Daniels MH992       | M22520/2-34 | M22520/5-01         | M22520/5-03 | M81969/8-09 or<br>M81969/14-04 | M81969/8-10 or<br>M81969/14-04 |

Note: May be crimped or soldered

**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
Hood: Stainless Steel/Passivated  
Center Contact: Copper Alloy/Gold Plated  
Crimp Sleeve: Copper Alloy/Gold Plated  
Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring



**M39029/60**  
**852-007**  
**Size 8 Coaxial Pin**



**D38999**  
 Ser. I, III, IV

**Size #8 Coaxial Pin Contacts for MIL-DTL-38999 Series I, III and IV Connectors**



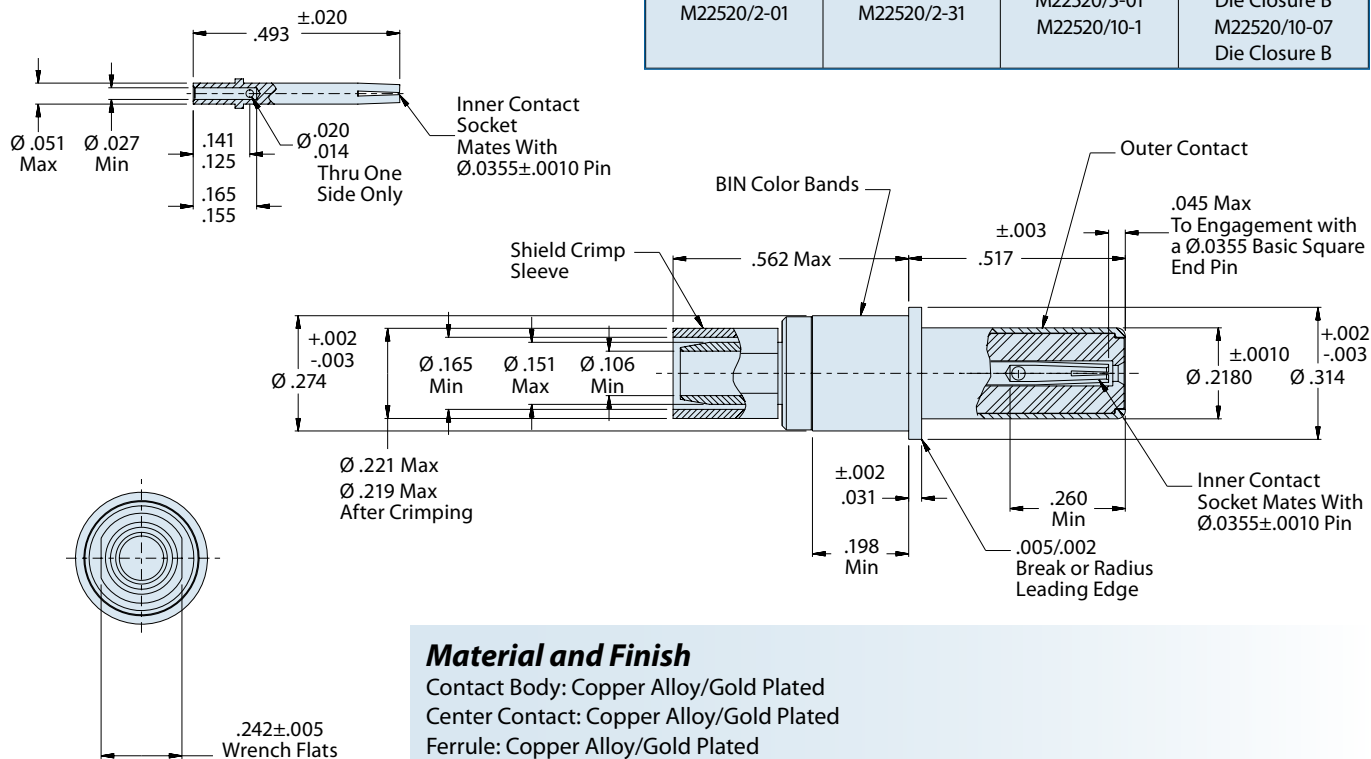
These #8 pin contacts accept 95 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 1,300 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/60.

| Type   | Cable Accommodation | Part Number           | Military Part Number | Color Band |      |        |
|--------|---------------------|-----------------------|----------------------|------------|------|--------|
|        |                     |                       |                      | 1st        | 2nd  | 3rd    |
| Socket | M17/095-RG180       | <b>852-007-08-367</b> | M39029/60-367        | Orange     | Blue | Violet |

**B**

| Insertion Tool                 | Extraction Tool   | Insulator Expander Tool (crimp only) |
|--------------------------------|-------------------|--------------------------------------|
| None Required - Hand Installed | MIL-I-81969/14-06 | 11-10134                             |

| Center Contact Tooling |                    | Shield Crimp Sleeve Tooling |   |
|------------------------|--------------------|-----------------------------|---|
| Basic Crimping Tool    | Contact Positioner | Basic Crimping Tool         | Die Part or Identifying No.                             |
| M22520/2-01            | M22520/2-31        | M22520/5-01<br>M22520/10-1  | M22520/5-05 Die Closure B<br>M22520/10-07 Die Closure B |



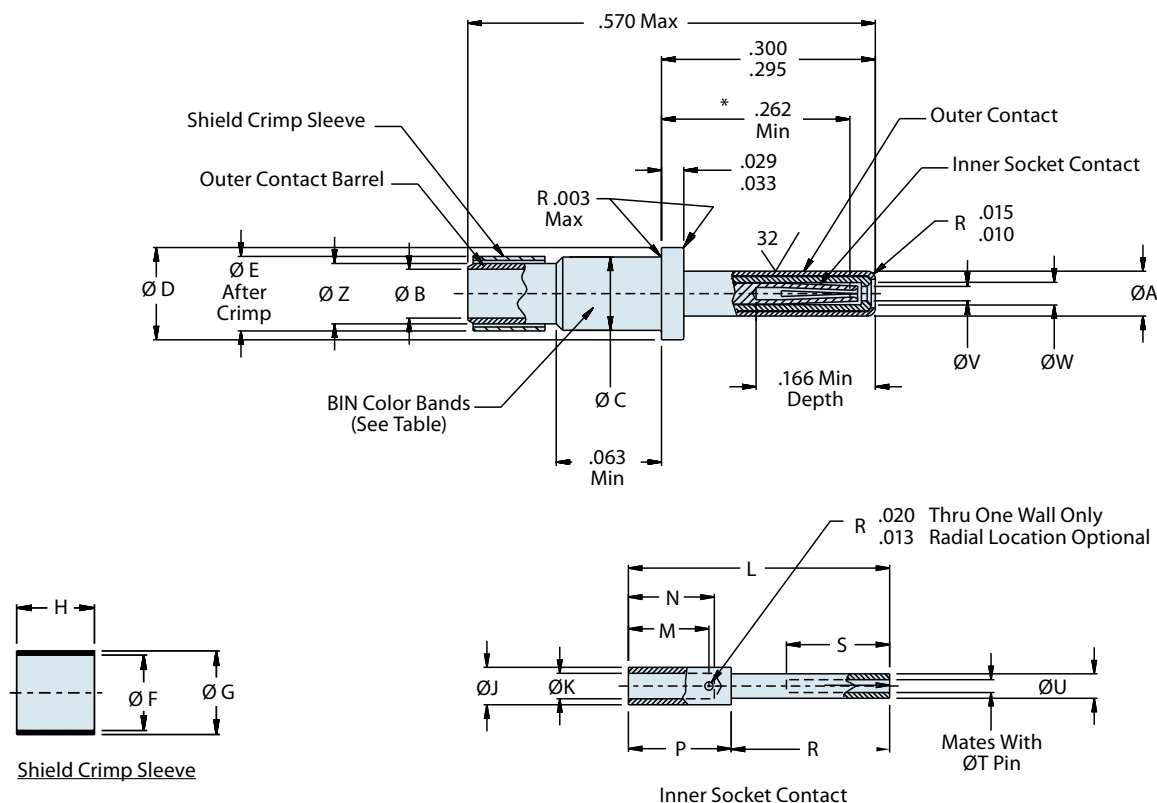
D38999

Ser. I, II, III, IV

**Size #16 Coaxial Pin Contacts for MIL-DTL-38999 Series I, II, III and IV Connectors**


These #16 pin contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 800 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and are unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. VSWR rating 1.5:1 maximum up to 700 MHz. 5000 megohm insulation resistance. Mates with: M39029/77 and /78.

B


**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Copper Alloy/Gold Plated  
 Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring



**M39029/76**  
**852-008**  
**Size 16 Coaxial Pin**



| Type | Cable Accommodation  | Part Number           | Military Part Number | Color Band |     |        |
|------|--|-----------------------|----------------------|------------|-----|--------|
|      |  |                       |                      | 1st        | 2nd | 3rd    |
| Pin  | M17/119-RG174, M17/113-RG316, M17/094-RG179, Times AA3248, Teledyne 11299, Haveg 8100207, Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1 | <b>852-008-16-424</b> | M39029/76-424        | Yellow     | Red | Yellow |
|      | M19/093-RG178  | <b>852-008-16-425</b> | M39029/76-425        | Yellow     | Red | Green  |
|      | Haveg 61-02051, Revere WH95623   | <b>852-008-16-426</b> | M39029/76-426        | Yellow     | Red | Blue   |
|      | Haveg 30-00761, Haveg 30-02024, Haveg 30-02033, Tensolite 24713/A955KK1, Tensolite 26723/A955KK1   | <b>852-008-16-427</b> | M39029/76-427        | Yellow     | Red | Violet |

| Table I  |                              |                |                            |                          |             |             |             |                          |             |             |             |
|----------|------------------------------|----------------|----------------------------|--------------------------|-------------|-------------|-------------|--------------------------|-------------|-------------|-------------|
| BIN Code | ØA                           | ØB Min         | ØC                         | ØD                       | ØE Max      | ØF Min      | ØG Max      | H                        | ØJ Max      | ØK Min      | ØL Ref      |
| 424      | .0635 (1.61)<br>.0615 (1.56) | .0670 (1.7018) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | 0.108 (2.7) | 0.105 (2.7) | 0.120 (3.0) | .105 (2.7)<br>.095 (2.4) | 0.046 (1.2) | .0210 (0.5) | .392 (10.0) |
| 425      | .0635 (1.61)<br>.0615 (1.56) | .0575 (1.4605) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | 0.108 (2.7) | 0.094 (2.4) | 0.120 (3.0) | .105 (2.7)<br>.095 (2.4) | 0.046 (1.2) | .0210 (0.5) | .392 (10.0) |
| 426      | .0635 (1.61)<br>.0615 (1.56) | .0670 (1.7018) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | 0.108 (2.7) | 0.105 (2.7) | 0.120 (3.0) | .105 (2.7)<br>.095 (2.4) | 0.052 (1.3) | .0355 (0.9) | .392 (10.0) |
| 427      | .0635 (1.61)<br>.0615 (1.56) | .0575 (1.4605) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | 0.108 (2.7) | 0.094 (2.4) | 0.120 (3.0) | .105 (2.7)<br>.095 (2.4) | 0.046 (1.2) | .0270 (0.7) | .392 (10.0) |

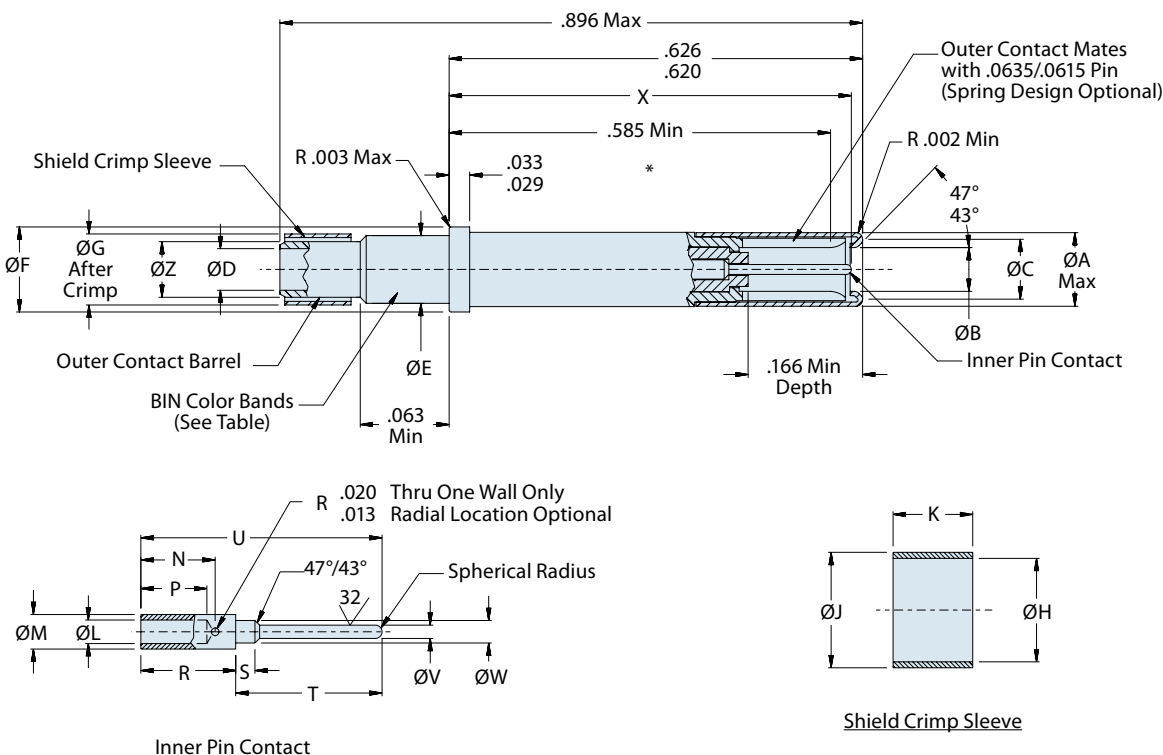
| Table I (continued) |                          |             |                          |                          |             |                            |                        |                        |                            |           |
|---------------------|--------------------------|-------------|--------------------------|--------------------------|-------------|----------------------------|------------------------|------------------------|----------------------------|-----------|
| BIN Code            | M                        | N Min       | P                        | R                        | S Min       | T                          | U                      | ØV                     | ØW                         | ØZ Max    |
| 424                 | .094 (2.4)<br>.087 (2.2) | 0.103 (2.6) | .125 (3.2)<br>.119 (3.0) | .271 (6.9)<br>.269 (6.8) | 0.156 (4.0) | .0155 (.39)<br>.0145 (.37) | .030 (.8)<br>.028 (.7) | .022 (.6)<br>.018 (.5) | .041 (1.04)<br>.038 (.097) | 0.085 2.2 |
| 425                 | .094 (2.4)<br>.087 (2.2) | 0.103 (2.6) | .125 (3.2)<br>.119 (3.0) | .271 (6.9)<br>.269 (6.8) | 0.156 (4.0) | .0155 (.39)<br>.0145 (.37) | .030 (.8)<br>.028 (.7) | .022 (.6)<br>.018 (.5) | .041 (1.04)<br>.038 (.097) | 0.076 1.9 |
| 426                 | .094 (2.4)<br>.087 (2.2) | 0.103 (2.6) | .125 (3.2)<br>.119 (3.0) | .271 (6.9)<br>.269 (6.8) | 0.156 (4.0) | .0155 (.39)<br>.0145 (.37) | .030 (.8)<br>.028 (.7) | .022 (.6)<br>.018 (.5) | .041 (1.04)<br>.038 (.097) | 0.085 2.2 |
| 427                 | .094 (2.4)<br>.087 (2.2) | 0.103 (2.6) | .125 (3.2)<br>.119 (3.0) | .271 (6.9)<br>.269 (6.8) | 0.156 (4.0) | .0155 (.39)<br>.0145 (.37) | .030 (.8)<br>.028 (.7) | .022 (.6)<br>.018 (.5) | .041 (1.04)<br>.038 (.097) | 0.076 1.9 |

| Table III           |             |                     |             |                                |                                |
|---------------------|-------------|---------------------|-------------|--------------------------------|--------------------------------|
| Inner Contact       |             | Outer Contact       |             | Insertion Tool                 | Extraction Tool                |
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner  |                                |                                |
| M22520/2-01         | M22520/2-35 | M22520/4-01         | M22520/4-02 | M81969/8-07 or<br>M81969/14-03 | M81969/8-08 or<br>M81969/14-03 |

**D38999**  
 Ser. I, III, IV

**Size #16 Coaxial Socket Contacts for MIL-DTL-38999 Series I, III and IV Connectors**


These #16 socket contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 800 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and are unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. VSWR rating 1.5:1 maximum up to 700 MHz. 5000 megohm insulation resistance. Mates with: M39029/76.


**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Hood: Stainless Steel/Passivated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Copper Alloy/Gold Plated  
 Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring

**M39029/77**  
**852-009**  
**Size 16 Coaxial Socket**



| Type   | Cable Accommodation   | Part Number           | Military Part Number | Color Band |        |       |
|--------|---|-----------------------|----------------------|------------|--------|-------|
|        |   |                       |                      | 1st        | 2nd    | 3rd   |
| Socket | M17/119-RG174, M17/113-RG316, M17/094-RG179, Times AA3248, Teledyne 11299, Haveg 8100207, Thermax 75-738-BCCWXE, Tensolite 30888/L707YX-1 | <b>852-009-16-428</b> | M39029/77-428        | Yellow     | Red    | Gray  |
|        | M17/093-RG178   | <b>852-009-16-429</b> | M39029/77-429        | Yellow     | Red    | White |
|        | Haveg 61-02051, Revere WH95623  | <b>852-009-16-430</b> | M39029/77-430        | Yellow     | Orange | Black |
|        | Haveg 30-00761, Haveg 30-02024, Haveg 30-02033, Tensolite 24713/A955KK1, Tensolite 26723/A955KK1  | <b>852-009-16-431</b> | M39029/77-431        | Yellow     | Orange | Brown |

| BIN Code | ØA Max     | ØB                         | ØC                       | ØD Min          | ØE                         | ØF                       | ØG Max        | ØH Min        | ØJ Max        | K                        | ØL Min         |
|----------|------------|----------------------------|--------------------------|-----------------|----------------------------|--------------------------|---------------|---------------|---------------|--------------------------|----------------|
| 428      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | .670<br>(17.0)  | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .105<br>(2.7) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0210<br>(0.5) |
| 429      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | 0.575<br>(14.6) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .094<br>(2.4) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0210<br>(0.5) |
| 430      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | .670<br>(17.0)  | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .105<br>(2.7) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0355<br>(0.9) |
| 431      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | 0.575<br>(14.6) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .094<br>(2.4) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0270<br>(0.7) |

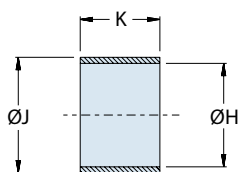
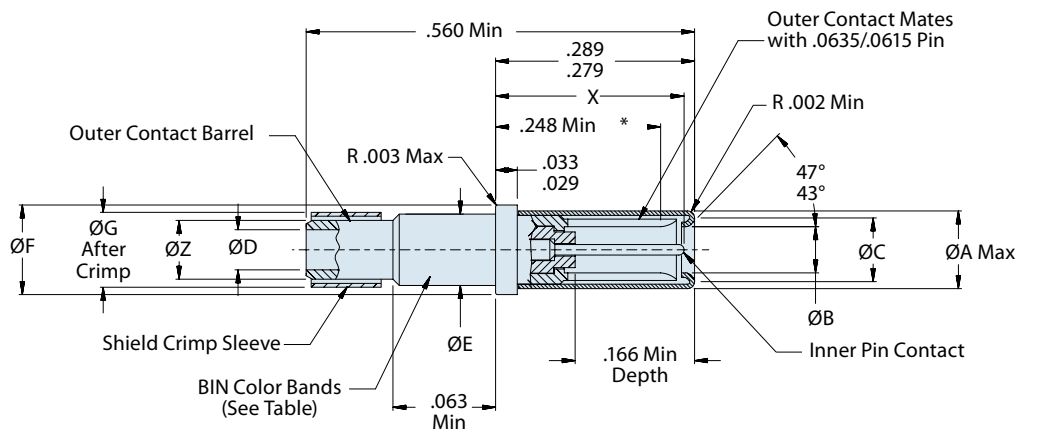
| BIN Code | ØM Max         | N Min         | P                        | R                        | S                        | T                          | U Ref          | ØV                         | ØW                       | X                          | ØZ Max        |
|----------|----------------|---------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------|----------------------------|--------------------------|----------------------------|---------------|
| 428      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .611 (15.5)<br>.601 (15.3) | .085<br>(2.2) |
| 429      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .611 (15.5)<br>.601 (15.3) | .076<br>(1.9) |
| 430      | 0.052<br>(1.3) | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .611 (15.5)<br>.601 (15.3) | .085<br>(2.2) |
| 431      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .611 (15.5)<br>.601 (15.3) | .076<br>(1.9) |

| Inner Contact       |             | Outer Contact       |             | Insertion Tool                 | Extraction Tool                |
|---------------------|-------------|---------------------|-------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner  |                                |                                |
| M22520/2-01         | M22520/2-35 | M22520/4-01         | M22520/4-02 | M81969/8-07 or<br>M81969/14-03 | M81969/8-08 or<br>M81969/14-03 |

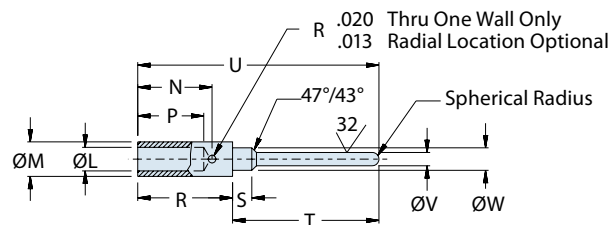
**D38999**  
 Series II

**Size #16 Coaxial Socket Contacts for MIL-DTL-38999 Series II Connectors**


These #16 socket contacts accept 50 ohm and 75 ohm coaxial cable. Inner contact is rated at 1 amp, the outer contact 12 amps. DWV rating is 800 Vac rms sea level, 250 Vac at 50,000 feet. Contacts are packaged individually and are unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact and shield crimp sleeve. Inner and outer contacts are gold-plated copper alloy. Approved to SAE AS39029. VSWR rating 1.5:1 maximum up to 700 MHz. 5000 megohm insulation resistance. Mates with: M39029/76.

**B**


Shield Crimp Sleeve



Inner Pin Contact

**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Hood: Stainless Steel/Passivated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Copper Alloy/Gold Plated  
 Insulator: Teflon

\* Indicates point at which a square ended pin of the same basic diameter as the mating contact first engages the outer contact spring

**M39029/78**  
**852-010**  
**Size 16 Coaxial Socket**



| Type   | Cable Accommodation  | Part Number           | Military Part Number | Color Band |        |        |
|--------|--|-----------------------|----------------------|------------|--------|--------|
|        |  |                       |                      | 1st        | 2nd    | 3rd    |
| Socket | M17/119-RG174, M17/113-RG316, M17/094-RG179,<br>Times AA3248, Teledyne 11299, Haveg 8100207,<br>Thermax 75-738-BCCWXE, Tensolite 3088/L707YX-1 | <b>852-010-16-432</b> | M39029/78-432        | Yellow     | Orange | Red    |
|        | M17/093-RG178  | <b>852-010-16-433</b> | M39029/78-433        | Yellow     | Orange | Orange |
|        | Haveg 61-02051, Revere WH95623   | <b>852-010-16-434</b> | M39029/78-434        | Yellow     | Orange | Yellow |
|        | Haveg 30-00761, Haveg 30-02024, Haveg 30-02033,<br>Tensolite 24713/A955KK1, Tensolite 26723/A955K1   | <b>852-010-16-435</b> | M39029/78-435        | Yellow     | Orange | Green  |

| BIN Code | ØA Max     | ØB                         | ØC                       | ØD Min          | ØE                         | ØF                       | ØG Max        | ØH Min        | ØJ Max        | K                        | ØL Min         |
|----------|------------|----------------------------|--------------------------|-----------------|----------------------------|--------------------------|---------------|---------------|---------------|--------------------------|----------------|
| 432      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | .670<br>(17.0)  | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .105<br>(2.7) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0210<br>(0.5) |
| 433      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | 0.575<br>(14.6) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .094<br>(2.4) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0210<br>(0.5) |
| 434      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | .670<br>(17.0)  | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .105<br>(2.7) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0355<br>(0.9) |
| 435      | .113 (2.9) | .068 (1.73)<br>.065 (1.65) | .089 (2.3)<br>.084 (2.1) | 0.575<br>(14.6) | .103 (2.62)<br>.101 (2.57) | .130 (3.3)<br>.127 (3.2) | .108<br>(2.7) | .094<br>(2.4) | .120<br>(3.0) | .105 (2.7)<br>.095 (2.4) | .0270<br>(0.7) |

| BIN Code | ØM Max         | N Min         | P                        | R                        | S                        | T                          | U Ref          | ØV                         | ØW                       | X                        | ØZ Max        |
|----------|----------------|---------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------|----------------------------|--------------------------|--------------------------|---------------|
| 432      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .274 (7.0)<br>.264 (6.7) | .085<br>(2.2) |
| 433      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .274 (7.0)<br>.264 (6.7) | .076<br>(1.9) |
| 434      | 0.052<br>(1.3) | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .274 (7.0)<br>.264 (6.7) | .085<br>(2.2) |
| 435      | .046<br>(1.2)  | .103<br>(2.6) | .094 (2.4)<br>.087 (2.2) | .125 (3.2)<br>.119 (3.0) | .079 (2.0)<br>.073 (1.9) | .269 (6.83)<br>.266 (6.76) | .3895<br>(9.9) | .0155 (.39)<br>.0145 (.37) | .030 (0.8)<br>.028 (0.7) | .274 (7.0)<br>.264 (6.7) | .076<br>(1.9) |

| Inner Contact       |             | Outer Contact       |             | Insertion Tool                 | Extraction Tool                |
|---------------------|-------------|---------------------|-------------|--------------------------------|--------------------------------|
| Basic Crimping Tool | Positioner  | Basic Crimping Tool | Positioner  |                                |                                |
| M22520/2-01         | M22520/2-35 | M22520/4-01         | M22520/4-02 | M81969/8-07 or<br>M81969/14-03 | M81969/8-08 or<br>M81969/14-03 |



**M39029/90**  
**853-001**  
**Size 8 Concentric Twinax Pin**

**D38999**

Ser. I, II, III, IV

**Size #8 Concentric Twinax Pin for MIL-DTL-38999 Series I, II, III and IV Connectors  
(Inactive for New Design—Replaced by M39029/113)**



These #8 concentric twinax pin contacts accept MIL-STD-1553 data bus twinax cable. Center and intermediate contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Operating frequency is 0-20 MHz. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact, intermediate contact and shield crimp bushing. All contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/91.

**B**

| Type | Cable Accommodation | Part Number           | Military Part Number | Color Band |     |       |
|------|---------------------|-----------------------|----------------------|------------|-----|-------|
|      |                     |                       |                      | 1st        | 2nd | 3rd   |
| Pin  | M17/176-00002       | <b>853-001-08-529</b> | M39029/90-529        | Green      | Red | White |

**M39029/91**  
**853-002**  
**Size 8 Concentric Twinax Socket**



**D38999**  
Ser. I, III, IV

**Size #8 Concentric Twinax Socket for MIL-DTL-38999 Series I, III and IV Connectors  
(Inactive for New Design—Replaced by M39029/114)**



These #8 concentric twinax socket contacts accept MIL-STD-1553 data bus twinax cable. Center and intermediate contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Operating frequency is 0-20MHz. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact, intermediate contact and shield crimp bushing. All contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/90.

| Type   | Cable Accommodation | Part Number           | Military Part Number | Color Band |        |       |
|--------|---------------------|-----------------------|----------------------|------------|--------|-------|
|        |                     |                       |                      | 1st        | 2nd    | 3rd   |
| Socket | M17/176-00002       | <b>853-002-08-530</b> | M39029/91-530        | Green      | Orange | Black |



**M39029/113**  
**853-003**  
**Size 8 Concentric Twinax Pin**

**D38999**  
Ser. I, III, IV

**Size #8 Concentric Twinax Pin for MIL-DTL-38999 Series I, III and IV Connectors**



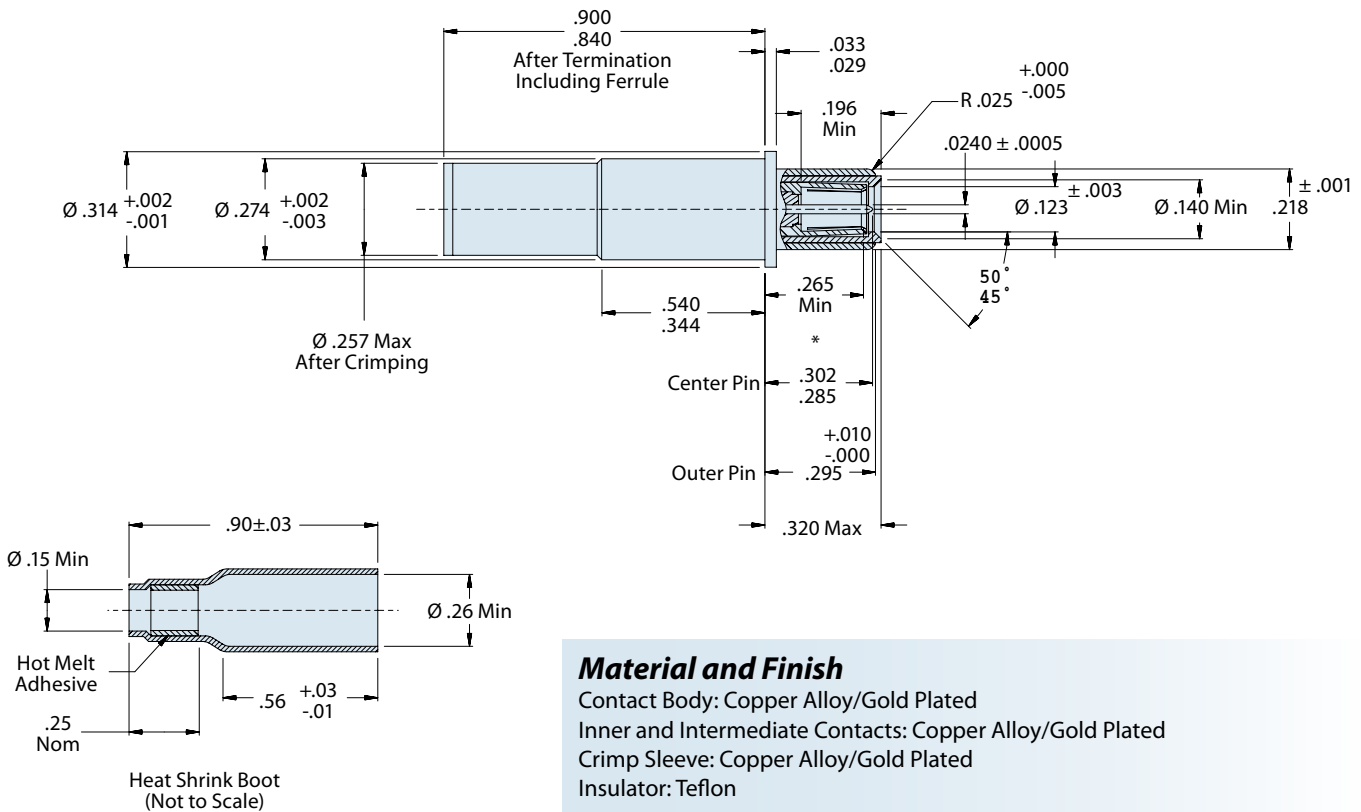
These #8 concentric twinax pin contacts accept MIL-STD-1553 data bus twinax cable. Center and intermediate contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Operating frequency is 0-20 MHz. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact, intermediate contact and shield crimp bushing. All contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/114.

**B**

| Type | Cable Accommodation | Part Number           | Military Part Number | Color Band |     |       |
|------|---------------------|-----------------------|----------------------|------------|-----|-------|
|      |                     |                       |                      | 1st        | 2nd | 3rd   |
| Pin  | M17/176-00002       | <b>853-003-08-625</b> | M39029/113-625       | Blue       | Red | Green |

| Table II - Tool<br>(Insertion and Extraction) |
|---|
| M81969/14-12                                  |

| Table III Tools (Crimping) |                    |                              |                       |                            |                       |
|----------------------------|--------------------|------------------------------|-----------------------|----------------------------|-----------------------|
| Center Contact Tooling     |                    | Intermediate Contact Tooling |                       | Outer Crimp Sleeve Tooling |                       |
| Basic Crimping Tool        | Contact Positioner | Basic Crimping Tool          | Die Part No.          | Basic Crimping             | Die Part No.          |
| M22520/2-01                | M22520/2-37        | M22520/5-01                  | M22520/5-105 Cavity B | M22520/5-01                | M22520/5-105 Cavity A |



**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
Inner and Intermediate Contacts: Copper Alloy/Gold Plated  
Crimp Sleeve: Copper Alloy/Gold Plated  
Insulator: Teflon



**M39029/114**  
**853-004**  
**Size 8 Concentric Twinax Socket**



**D38999**  
Ser. I, III, IV

**Size #8 Concentric Twinax Socket for MIL-DTL-38999 Series I, III and IV Connectors**



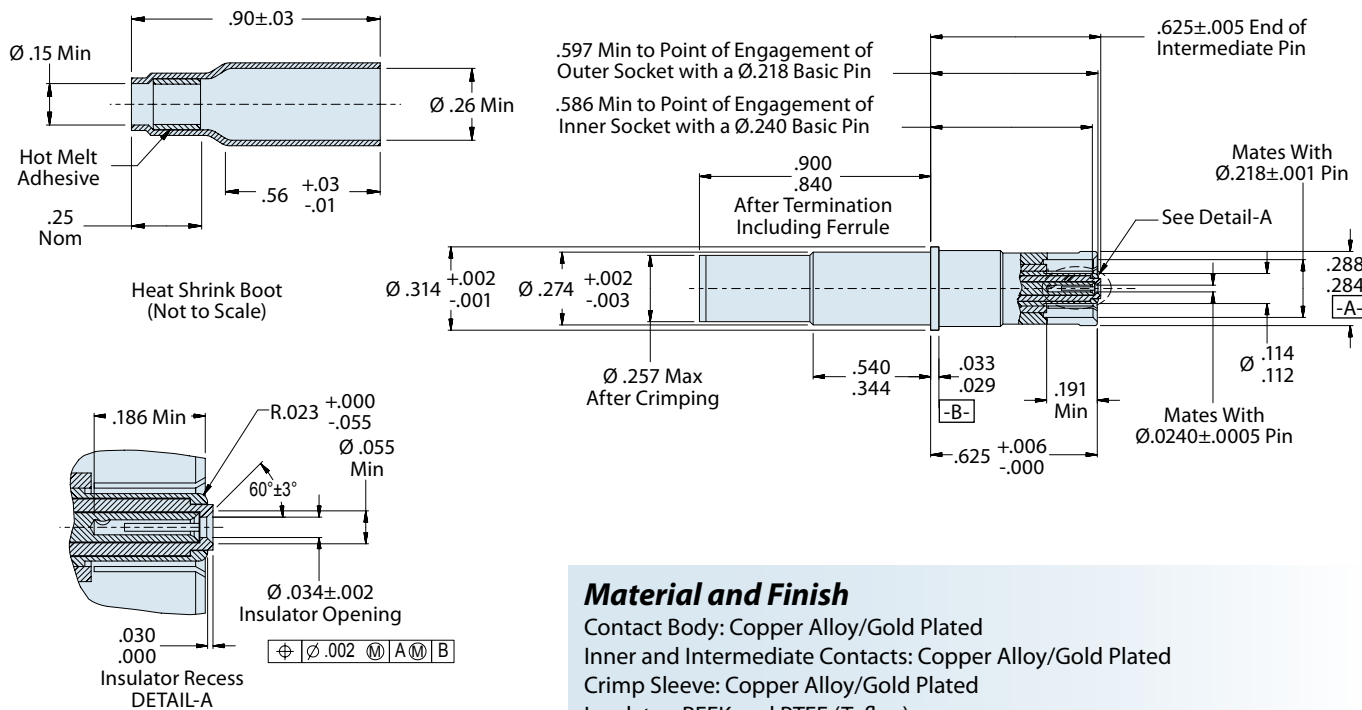
These #8 concentric twinax socket contacts accept MIL-STD-1553 data bus twinax cable. Center and intermediate contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Operating frequency is 0-20 MHz. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contact, intermediate contact and shield crimp bushing. All contacts are gold-plated copper alloy. Approved to SAE AS39029. 5000 megohm insulation resistance. Mates with: M39029/113.

| Type   | Cable Accommodation | Part Number           | Military Part Number | Color Band |     |        |
|--------|---------------------|-----------------------|----------------------|------------|-----|--------|
|        |                     |                       |                      | 1st        | 2nd | 3rd    |
| Socket | M17/176-00002       | <b>853-004-08-628</b> | M39029/114-628       | Blue       | Red | Violet |

**B**

| Table II - Tool<br>(Insertion and Extraction) |
|---|
| M81969/14-12                                  |

| Table III Tools (Crimping) |                    |                              |              |                            |              |
|----------------------------|--------------------|------------------------------|--------------|----------------------------|--------------|
| Center Contact Tooling     |                    | Intermediate Contact Tooling |              | Outer Crimp Sleeve Tooling |              |
| Basic Crimping Tool        | Contact Positioner | Basic Crimping Tool          | Die Part No. | Basic Crimping             | Die Part No. |
| M22520/2-01                | M22520/2-37        | M22520/5-01                  | M22520/5-105 | M22520/5-01                | M22520/5-105 |





854-001

## Crimp Quadrax Pin Contact MIL-DTL-38999 Series III Type

D38999  
Series III

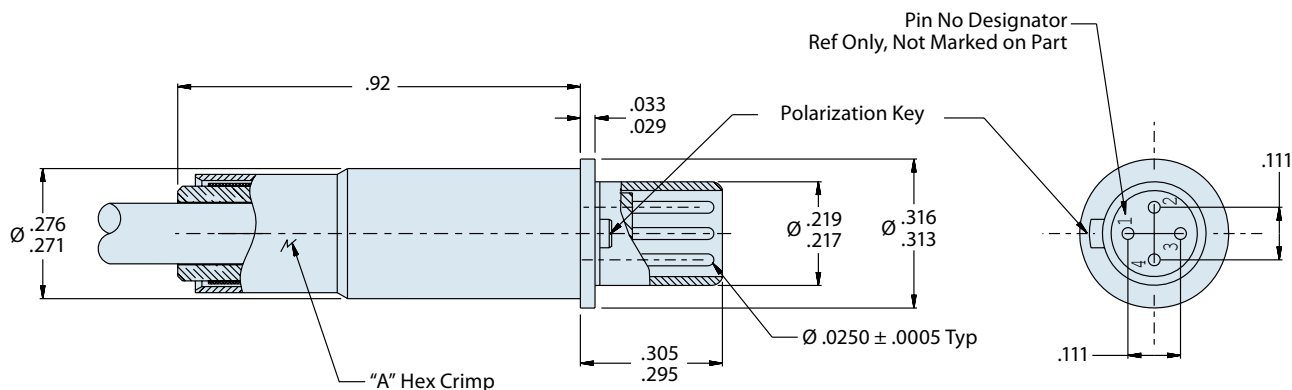
### Size #8 Quadrax Pin Contact for Glenair 257-606 Connectors (D38999 Ser. III Type)



These #8 quadrax pin contacts accept 100 ohm quadrax cable. Center contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contacts and shield crimp bushing. All contacts are gold-plated copper alloy. 5000 megohm insulation resistance at 200Vdc. Mates with: 854-002. Ideally suited for up to 1000 Base-T gigabit ethernet.

B

| Type | Glenair Part Number | Military Part Number | Cable Accommodation   | Grommet Follower | Cable O.D. | "A" Hex | Wire Size |
|------|---------------------|----------------------|-----------------------|------------------|------------|---------|-----------|
| Pin  | 854-001-01          | N/A                  | Tensolite NF26Q100    | 687-754-8-1      | .137       | .218    | 26 AWG    |
|      | 854-001-02          | N/A                  | Tensolite NF24Q100    | 687-754-8-2      | .163       | .218    | 24 AWG    |
|      | 854-001-03          | N/A                  | Draka Fileca F-4704-6 | 687-754-8-3      | .153       | .218    | 26 AWG    |
|      | 854-001-04          | N/A                  | Draka Fileca F-4704-4 | 687-754-8-4      | .175       | .218    | 24 AWG    |
|      | 854-001-05          | N/A                  | Tensolite NF22Q100    | 687-754-8-5      | .190       | .231    | 22 AWG    |



#### Material and Finish

Contact Body: Copper Alloy/Gold Plated  
 Inner Contact: Copper Alloy/Gold Plated  
 Crimp Bushing: Brass or equivalent/Gold Plated  
 Insulator: Teflon, Ultem Series 1000 or equivalent  
 Grommet/Follower: Fluorosilicone/Ultem 1000 or equivalent

**854-002**  
**Crimp Quadrax Socket Contact**  
 MIL-DTL-38999 Series III Type

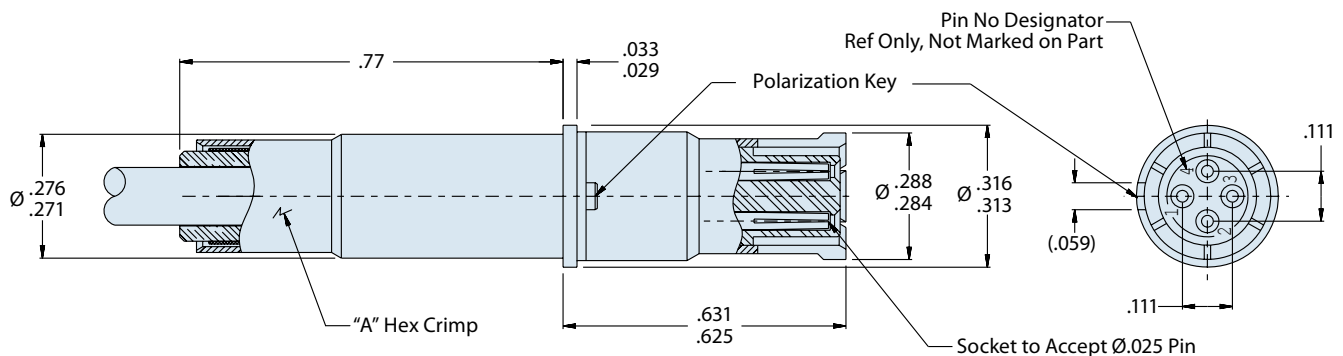


**Size #8 Quadrax Socket Contact for Glenair 257-606 Connectors (D38999 Ser. III Type)**



These #8 quadrax socket contacts accept 100 ohm quadrax cable. Center contacts are rated at 1 amp, the outer contact 12 amps. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, fluorocarbon dielectric, inner contacts and shield crimp bushing. All contacts are gold-plated copper alloy. 5000 megohm insulation resistance at 200Vdc. Mates with: 854-001. Ideally suited for up to 1000 Base-T gigabit ethernet.

| Type   | Glenair Part Number | Military Part Number | Cable Accommodation   | Grommet Follower | Ref Cable O.D. | "A" Hex | Wire Size |
|--------|---------------------|----------------------|-----------------------|------------------|----------------|---------|-----------|
| Socket | 854-002-01          | N/A                  | Tensolite NF26Q100    | 687-754-8-1      | .137           | .218    | 26 AWG    |
|        | 854-002-02          | N/A                  | Tensolite NF24Q100    | 687-754-8-2      | .163           | .218    | 24 AWG    |
|        | 854-002-03          | N/A                  | Draka Fileca F-4704-6 | 687-754-8-3      | .153           | .218    | 26 AWG    |
|        | 854-002-04          | N/A                  | Draka Fileca F-4704-4 | 687-754-7-4      | .175           | .218    | 24 AWG    |
|        | 854-002-05          | N/A                  | Tensolite NF22Q100    | 687-754-8-5      | .190           | .231    | 22 AWG    |



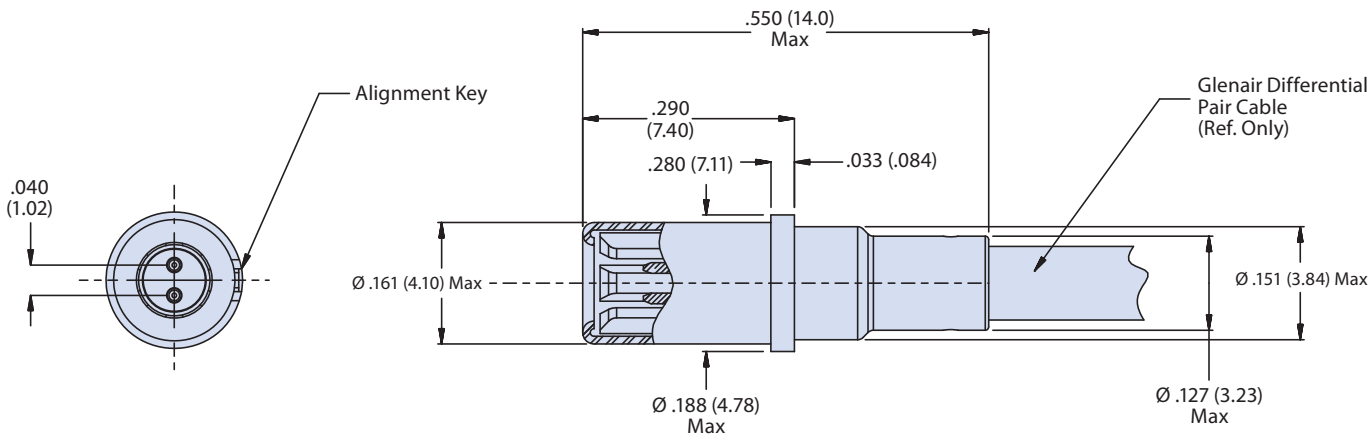
**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Inner Contact: Copper Alloy/Gold Plated  
 Crimp Bushing: Brass or equivalent/Gold Plated  
 Insulator: Teflon, Ultem Series 1000 or equivalent  
 Grommet/Follower: Fluorosilicone/Ultem 1000 or equivalent

**Size #12 Differential Twinax Socket Contact for Multi-Gigabit Data Rate Applications**


These solder terminated #12 twinax socket contacts accept 100 ohm twinax cable. Current rating is 1 Amp. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, center contact and crimp sleeve. All contacts are gold-plated copper alloy. 5000 megohm insulation resistance at 200Vdc. Mates with: 853-016. Ideally suited for multi-gigabit data rate applications such as 1000 Base-T gigabit ethernet.

| Type   | Glenair Part No.  | Military Part No. | AWG Wire Size | Cable Accommodation              | Impedance           | Frequency Range | VSWR                | Insertion Loss |
|--------|-------------------|-------------------|---------------|----------------------------------|---------------------|-----------------|---------------------|----------------|
| Socket | <b>853-015-01</b> | N/A               | 28            | <b>859-041</b><br><b>963-001</b> | 100-Ohms<br>Nominal | DC to<br>10 GHz | 1.1 + (.03 * F GHz) | 1.3 *F GHz     |


**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Brass or equivalent/Gold Plated

**Electrical Parameters**

Differential Impedance: 100-ohms nominal  
 Frequency Range: DC to 10 GHz  
 VSWR: 1.1+(.03\* F GHz)  
 Insertion Loss: 1/3\* F GHz  
 Dielectric Withstanding Voltage: 500 Vrms  
 Insulation Resistance: 5000 Megohms minimum

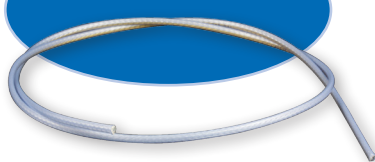
**Notes**

Contact is designed to accommodate Glenair P/N 963-001 cable.  
 For assembly instructions, see AI85014.  
 Socket contact shall mate with Glenair Pin Contact P/N 853-016-XX.  
 For use in Glenair Mighty Mouse and Series 79 Micro-Crimp connectors only.  
 PCB Tail-equipped contacts also available. Consult factory.

Designed for use with 853-015-01

963-001

Differential Pair Cable



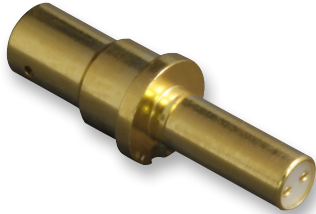
853-016

**Size #12 Differential Twinax Pin Contact**  
**For Use with Mighty Mouse and Series 79 Micro-Crimp**



Shielded  
Contacts

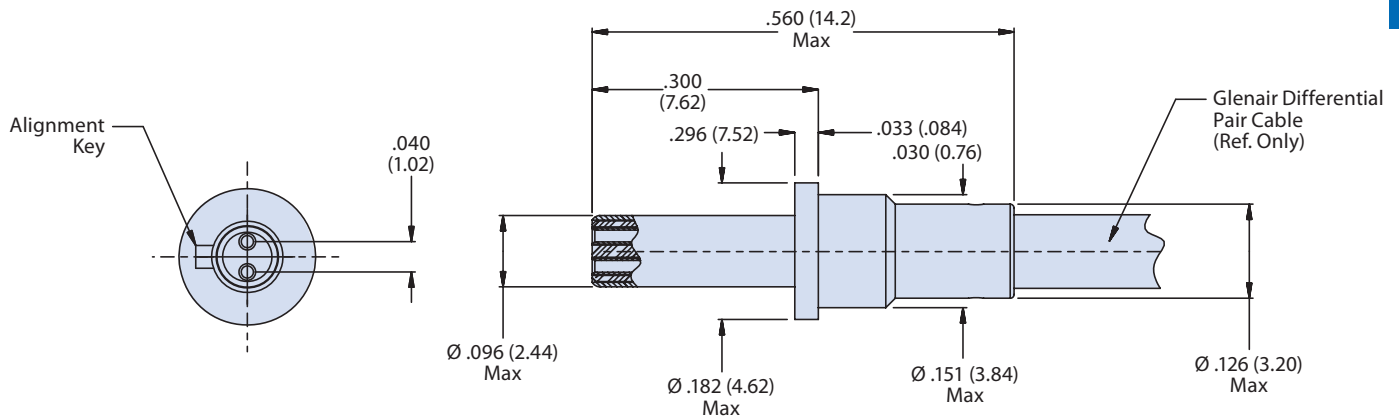
**Size #12 Differential Twinax Pin Contact for Multi-Gigabit Data Rate Applications**



These solder terminated #12 twinax pin contacts accept 100 ohm twinax cable. Current rating is 1 Amp. DWV rating is 500 Vac rms sea level, 125 Vac at 70,000 feet. Contacts are packaged individually and shipped unassembled with instruction sheet. One contact consists of outer contact, center contact and crimp sleeve. All contacts are gold-plated copper alloy. 5000 megohm insulation resistance at 200Vdc. Mates with: 853-015. Ideally suited for multi-gigabit data rate applications such as 1000 Base-T gigabit ethernet.

| Type | Glenair Part No. | Military Part No. | AWG Wire Size | Cable Accommodation | Impedence        | Frequency Range | VSWR                | Insertion Loss |
|------|------------------|-------------------|---------------|---------------------|------------------|-----------------|---------------------|----------------|
| Pin  | 853-016-01       | N/A               | 28            | 859-041<br>963-001  | 100-Ohms Nominal | DC to 10 GHz    | 1.1 + (.03 * F GHz) | 1.3 *F GHz     |

B



**Material and Finish**

Contact Body: Copper Alloy/Gold Plated  
 Center Contact: Copper Alloy/Gold Plated  
 Crimp Sleeve: Brass or equivalent/Gold Plated

**Electrical Parameters**

Differential Impedence: 100-ohms nominal  
 Frequency Range: DC to 10 Ghz  
 VSWR: 1.1+(.03\* F Ghz)  
 Insertion Loss: 1/3\* F Ghz  
 Dielectric Withstanding Voltage: 500 Vrms  
 Insulation Resistance: 5000 Megohms minimum

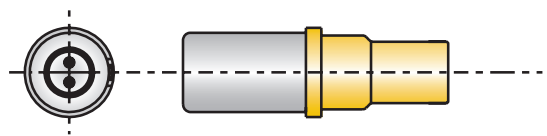
**Notes**

Contact is designed to accommodate Glenair P/N 963-001 cable.  
 For assembly instructions, see AI85014.  
 Pin contact shall mate with Glenair Socket Contact P/N 853-015-XX.  
 For use in Glenair Mighty Mouse and Series 79 Micro-Crimp connectors only.  
 PCB Tail-equipped contacts also available. Consult factory.

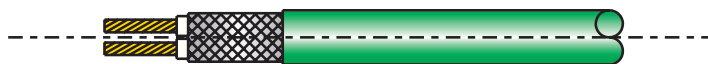




## AI85014 Twinax Socket Contact Assembly Instructions



Socket Contact

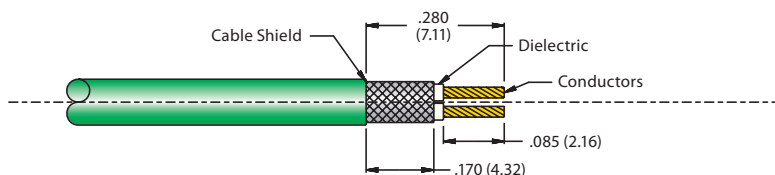


100 Ohm Parallel Cable

B

### STEP 1

1. Strip cable to dimensions shown.  
**Be careful not to flare braid open.**
2. Pre-tin conductor and braid shield.
3. Clean the solder joint with alcohol.



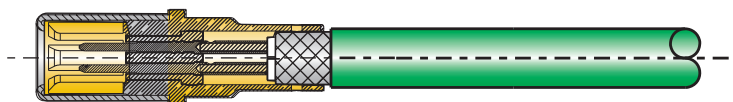
### STEP 2

1. Insert cable into socket contact.  
**Make sure center conductor lines up to the center socket.**



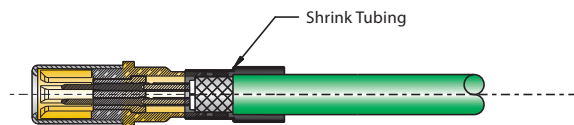
### STEP 3

1. Install center conductors until they bottom-out in the contact cavity.  
**Inspect to ensure cable shield is visible through the inspection hole.**
2. Apply flux and solder through the inspection hole; remove residues and contamination with alcohol after soldering.



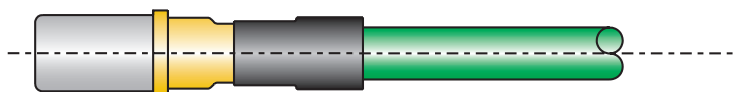
### STEP 4

1. Install M23053/5-204 or M23053/6-204 shrink tubing; cover solder area and extend insulation by minimum of one wire diameter.

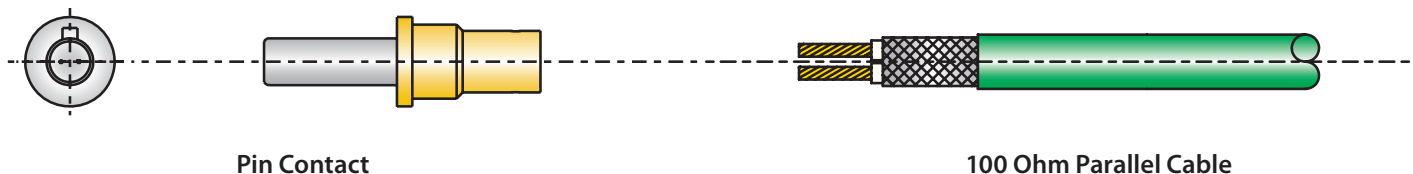


### STEP 5

1. Illustrates final assembly.



AI85015  
Twinax Pin Contact  
Assembly Instructions



| STEP 1   |  |
|--|--|
| <ol style="list-style-type: none"> <li>Strip cable to dimensions shown. <b>Be careful not to flare braid open.</b></li> <li>Pre-tin conductor and braid shield.</li> <li>Clean the solder joint with alcohol.</li> </ol>   |  |
| STEP 2   |  |
| <ol style="list-style-type: none"> <li>Insert cable into pin contact. <b>Make sure center conductor lines up to the center pin.</b></li> </ol>   |  |
| STEP 3   |  |
| <ol style="list-style-type: none"> <li>Install center conductors until they bottom-out in the contact cavity. <b>Inspect to ensure cable shield is visible through the inspection hole.</b></li> <li>Apply flux and solder through the inspection hole; remove residues and contamination with alcohol after soldering.</li> </ol> |  |
| STEP 4   |  |
| <ol style="list-style-type: none"> <li>Install M23053/5-204 or M23053/6-204 shrink tubing; cover solder area and extend insulation by minimum of one wire diameter.</li> </ol>   |  |
| STEP 5   |  |
| <ol style="list-style-type: none"> <li>Illustrates final assembly.</li> </ol>  |  |

B

**SERIES 18**

# FIBER OPTICS

**Mission-Critical Interconnect Systems  
for Commercial and Military Applications**



From our MIL-PRF-28876 type fiber optic connectors to our MIL-DTL-38999 type solutions, Glenair produces advanced performance fiber optic interconnection systems for every military and commercial standard. Fiber optic connectors, termini and cabling offer reduced weight, reduced size, huge bandwidth and EMI immunity— and Glenair manufactures a solution for every branch of the military and every mission-critical commercial application. For complete order information please see our fiber optic catalog or visit our website at [www.glenair.com](http://www.glenair.com)



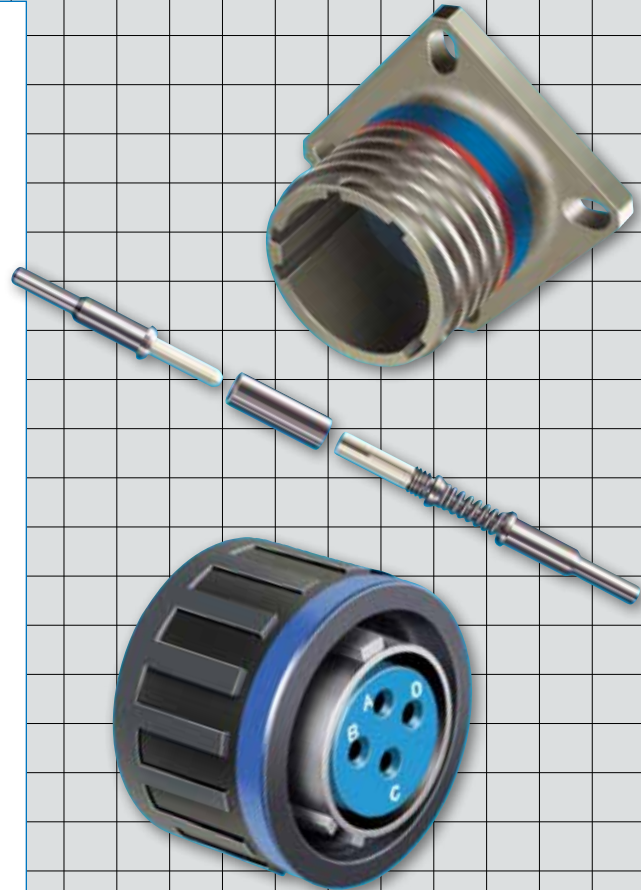


# QPL and Commercial High Performance Fiber Optic Termini

## Industry Leading Fiber Optic Technology

Glenair Fiber Optic connection systems are well known throughout the aerospace and tactical military applications arena. Our fiber optic contacts are universally recognized to provide consistent performance with extremely low dB loss. We are the supplier of choice for some of the world's most advanced fiber optic systems, including the revolutionary F-35 Joint Strike Fighter.

Glenair offers the industry's widest range of contacts for both Mil-Spec and proprietary fiber optic connection systems. These highly-available contact termini are guaranteed to deliver outstanding interconnection compatibility. Glenair manufactures fiber optic termini for every popular Mil-Spec and commercial high-performance interconnection system, including the multi-channel MIL-DTL-38999 Series III. Our fiber optic termini deliver optimal performance in both our own connectors as well as those produced by other manufacturers. In fact, our MIL-PRF-29504 qualified fiber optic termini are often selected as much for their outstanding interconnection compatibility as for their ability to boost the optical performance of third party connectors.



C

- ◆ Qualified and Commercial High-Performance, Low dB Loss Termini
- ◆ Same Day Inventory for Hundreds of Part Numbers
- ◆ Broadest Range of Mission-Critical Termini in the Mil-Aero Industry
- ◆ Myriad Material and Design Advantages



## Fiber Optic Termini Selection Guide

| Glenair Part Number                                | Part Description             | Contact Size | Pin / Socket | Connector Series       | Product Page |
|--|------------------------------|--------------|--------------|------------------------|--------------|
| <b>MIL-DTL-38999 Fiber Optic Contacts</b>          |                              |              |              |                        |              |
| <b>181-001</b>                                     | M29504/5 Socket Terminus     | 16           | Socket       | D38999 Series III      | C-4          |
| <b>181-002</b>                                     | M29504/4 Pin Terminus        | 16           | Pin          | D38999 Series III      | C-6          |
| <b>181-035</b>                                     | Socket, Large Core Fiber     | 16           | Socket       | D38999 Series III      | C-8          |
| <b>181-036</b>                                     | Pin, Large Core Fiber        | 16           | Pin          | D38999 Series III      | C-9          |
| <b>181-052</b>                                     | Jewel Pin Terminus           | 16           | Pin          | D38999 Series III      | C-10         |
| <b>181-053</b>                                     | Jewel Socket Terminus        | 16           | Socket       | D38999 Series III      | C-11         |
| <b>181-048</b>                                     | Sealing Plug                 | 16           | Pin          | D38999 Series III      | C-12         |
| <b>181-065</b>                                     | #20 Pin Terminus             | 20           | Pin          | D38999 Series III      | C-13         |
| <b>181-066</b>                                     | #20 Socket Terminus          | 20           | Socket       | D38999 Series III      | C-14         |
| <b>MIL-PRF-28876 Fiber Optic Contacts</b>          |                              |              |              |                        |              |
| <b>181-039</b>                                     | M29504/14 Pin Terminus       | 16           | Pin          | M28876                 | C-15         |
| <b>181-040</b>                                     | M29504/15 Socket Terminus    | 16           | Socket       | M28876                 | C-16         |
| <b>181-051</b>                                     | M29504/3 Dummy Terminus      | 16           | Dummy        | M28876                 | C-33         |
| <b>Series 80 Mighty Mouse Fiber Optic Contacts</b> |                              |              |              |                        |              |
| <b>181-057</b>                                     | Mighty Mouse Pin Terminus    | 16           | Pin          | Series 80 Mighty Mouse | C-18         |
| <b>181-075</b>                                     | Mighty Mouse Socket Terminus | 16           | Socket       | Series 80 Mighty Mouse | C-19         |

# Fiber Optic Termini Selection Guide



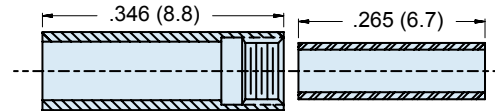
| Glenair Part Number  | Part Description                                     | Contact Size | Pin / Socket   | Connector Series | Product Page |
|--|--|--------------|----------------|------------------|--------------|
| <b>Special Fiber Optic COTS Contacts Size 16 Front Release</b> |  |              |                |                  |              |
| 181-011  | Front Release Socket with Pressure Sealing O-Ring(s) | 16           | Socket         | COTS             | C-20         |
| 181-012  | Front Release Pin                                    | 16           | Pin            | COTS             | C-22         |
| 181-051  | Dummy Terminus                                       | 16           | Dummy          | COTS             | C-33         |
| <b>ARINC Type Fiber Optic Contacts</b>                         |  |              |                |                  |              |
| 181-076  | ARINC 801 Terminus                                   | 16           | Genderless Pin | ARINC 801        | C-24         |
| 187-079  | M29504/6 Pin Terminus                                | 16           | Pin            | ARINC 404, 600   | C-25         |
| 187-080  | M29504/7 Socket Terminus                             | 16           | Socket         | ARINC 404, 600   | C-26         |
| <b>Glenair High Density (GHD) Fiber Optic Contacts</b>         |  |              |                |                  |              |
| 181-056  | GHD Terminus, Non-keyed                              | 18           | Genderless Pin | GHD              | C-28         |
| 181-047  | GHD Terminus, Keyed                                  | 18           | Genderless Pin | GHD              | C-30         |
| 181-058  | Dummy Terminus                                       | 18           | Dummy          | GHD              | C-32         |
| <b>Glenair GFOCA Fiber Optic Contacts</b>                      |  |              |                |                  |              |
| 181-050  | GFOCA Terminus                                       |              | Genderless Pin | GFOCA            | C-34         |
| 181-059  | Dummy Terminus                                       |              | Dummy          | GFOCA            | C-36         |
| <b>Next Generation Fiber Optic (NGCON) Contacts</b>            |  |              |                |                  |              |
| 181-043  | M29504/18  | 16           | Genderless Pin | M64266           | C-37         |

D38999  
Series III

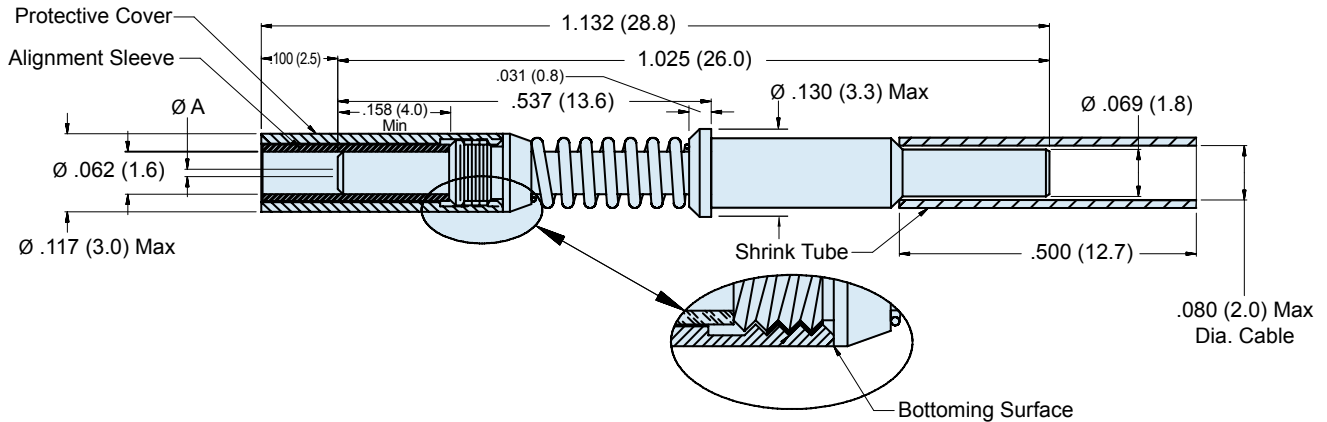
## Ultra low dB loss QPL'd Socket Terminus for MIL-DTL-38999



Glenair's unique alignment techniques maximize optical performance and provide reliable, repeatable interconnection of optical fibers. Ferrule design, critical to the performance of the termini, has traditionally relied on a machined stainless steel ferrule incorporating a precision micro drilled hole. Glenair's unique precision ceramic ferrules, with concentricity and diametric tolerances controlled within a micron (.00004 of an inch) meet the needs of high bandwidth and low allowable insertion loss applications. In fact, Glenair's ferrules are approximately 10 times more accurate than alternative designs, and have reduced insertion loss values from 1.5dB to less than .5dB (typical loss for Glenair termini is .3 dB).



**Protective Cover Alignment Sleeve  
(Included with Terminus)**



### Material and Finish

Ferrule: Zirconia Ceramic  
 Alignment Sleeve: Zirconia Ceramic or Stainless Steel/Passivate.  
 Terminus Assembly: Stainless Steel/Passivate  
 Spacer, Spring, and Cover: Stainless Steel/Passivate  
 Shrink Tube: Kynar

### Accessories

Alignment Sleeve & Protective Cover can also be ordered separately (Table II).

### Assembly

See assembly procedure GAP-015 for complete termination instructions.  
 Recommended insertion/Extraction tool: P/N: M81969/14-03 or equivalent

**M29504/5  
181-001**  
Size 16 MIL-DTL-38999 Type Fiber Optic Socket Terminus



| Part Number         | Fiber Size<br>Core/Cladding* | A Dia.<br>(Microns) | Reference Only<br>M29504/5-XXXX |
|---------------------|------------------------------|---------------------|---------------------------------|
| <b>181-001-125</b>  | 9/125 (Single Mode)          | 125.5               | M29504/5-4237                   |
| <b>181-001-126S</b> | 9/125 (Single Mode)          | 126.0               | M29504/5-4238                   |
| <b>181-001-126</b>  | 50/125 & 62.5/125            | 126.0               | M29504/5-4239                   |
| <b>181-001-127</b>  | 50/125 & 62.5/125            | 127.0               | M29504/5-4046                   |
| <b>181-001-142</b>  | 100/140                      | 142.0               | M29504/5-4049                   |
| <b>181-001-144</b>  | 100/140                      | 144.0               | N/A                             |
| <b>181-001-145</b>  | 100/140                      | 145.0               | M29504/5-4050                   |
| <b>181-001-156</b>  | 62.5/125/155 (Polyimide)     | 156.0               | M29504/5-4240                   |
| <b>181-001-157</b>  | 62.5/125/155 (Polyimide)     | 157.0               | M29504/5-4241                   |
| <b>181-001-173</b>  | 100/140/172 (Polyimide)      | 173.0               | M29504/5-4088                   |
| <b>181-001-175</b>  | 100/140/172 (Polyimide)      | 175.0               | M29504/5-4242                   |
| <b>181-001-231</b>  | 200/230                      | 231.0               | N/A                             |
| <b>181-001-236</b>  | 200/233                      | 236.0               | M29504/5-4243                   |
| <b>181-001-286</b>  | 200/280                      | 286.0               | M29504/5-4244                   |
| <b>181-001-448</b>  | 400/440                      | 448.0               | M29504/5-4245                   |
| <b>181-001-533</b>  | 486/500                      | 533.0               | N/A                             |

Ceramic alignment sleeve supplied with terminus. Add **K** to the end of part number development to supply with optional stainless steel alignment sleeve e.g. *181-001-126K*.



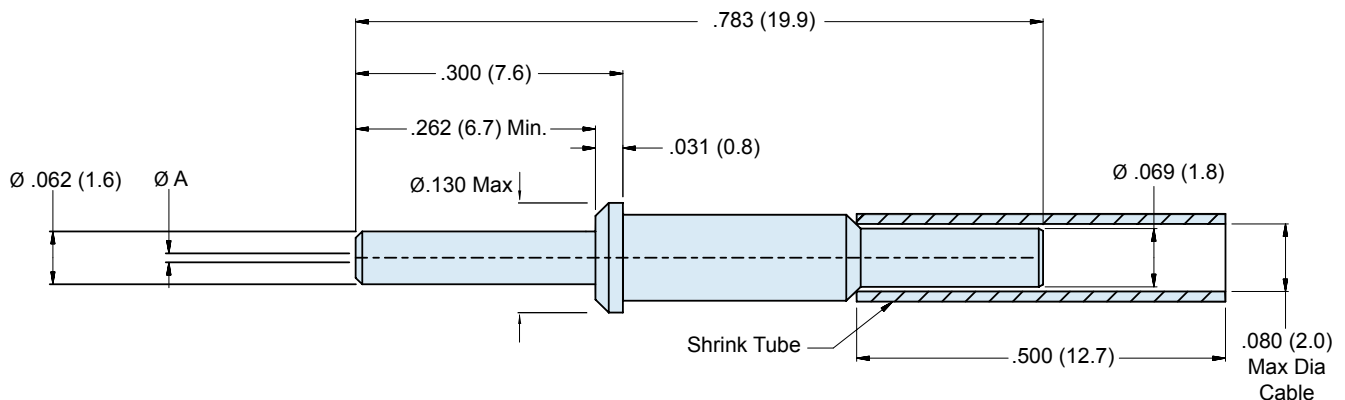
| Accessories      |                                  |
|------------------|----------------------------------|
| Part Number      | Description                      |
| <b>181-001-S</b> | Ceramic Alignment Sleeve         |
| <b>181-001-K</b> | Stainless Steel Alignment Sleeve |
| <b>181-001-C</b> | Protective cover                 |

D38999  
Series III

### Ultra Low dB loss QPL'd Pin Terminus for MIL-DTL-38999



Glenair's unique alignment techniques maximize optical performance and provide reliable, repeatable interconnection of optical fibers. Ferrule design, critical to the performance of the termini, has traditionally relied on a machined stainless steel ferrule incorporating a precision micro drilled hole. Glenair's unique precision ceramic ferrules, with concentricity and diametric tolerances controlled within a micron (.00004 of an inch) meet the needs of high bandwidth and low allowable insertion loss applications. In fact, Glenair's ferrules are approximately 10 times more accurate than alternative designs, and have reduced insertion loss values from 1.5dB to less than .5dB (typical loss for Glenair termini is .3 dB).



#### Material and Finish

Ferrule: Zirconia Ceramic

Terminus Assembly: Stainless Steel/Passivate

Shrink Tube: Kynar

#### Assembly

Recommended insertion/Extraction tool: P/N: M81969/14-03 or equivalent

See Glenair assembly procedure GAP-015 for complete termination instructions.

**M29504/4**  
**181-002**  
**Size 16 MIL-DTL-38999 Type Fiber Optic Pin Terminus**



| Part Number         | Fiber Size Core/Cladding* | A Dia. (Microns) | Reference Only M29504/4-XXXX |
|---------------------|---------------------------|------------------|------------------------------|
| <b>181-002-125</b>  | 9/125 (Single Mode)       | 125.5            | M29504/4-4208                |
| <b>181-002-126S</b> | 9/125 (Single Mode)       | 126.0            | M29504/4-4209                |
| <b>181-002-126</b>  | 50/125 & 62.5/125         | 126.0            | M29504/4-4210                |
| <b>181-002-127</b>  | 50/125 & 62.5/125         | 127.0            | M29504/4-4040                |
| <b>181-002-142</b>  | 100/140                   | 142.0            | M29504/4-4043                |
| <b>181-002-144</b>  | 100/140                   | 144.0            | N/A                          |
| <b>181-002-145</b>  | 100/140                   | 145.0            | M29504/4-4044                |
| <b>181-002-156</b>  | 62.5/125/155 (Polyimide)  | 156.0            | M29504/4-4211                |
| <b>181-002-157</b>  | 62.5/125/155 (Polyimide)  | 157.0            | M29504/4-4212                |
| <b>181-002-173</b>  | 100/140/172 (Polyimide)   | 173.0            | M29504/4-4087                |
| <b>181-002-175</b>  | 100/140/172 (Polyimide)   | 175.0            | M29504/4-4213                |
| <b>181-002-231</b>  | 200/230                   | 231.0            | N/A                          |
| <b>181-002-236</b>  | 200/233                   | 236.0            | M29504/4-4214                |
| <b>181-002-286</b>  | 200/280                   | 286.0            | M29504/4-4215                |
| <b>181-002-448</b>  | 400/440                   | 448.0            | M29504/4-4216                |
| <b>181-002-533</b>  | 486/500                   | 533.0            | N/A                          |



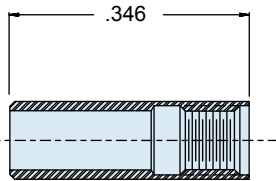
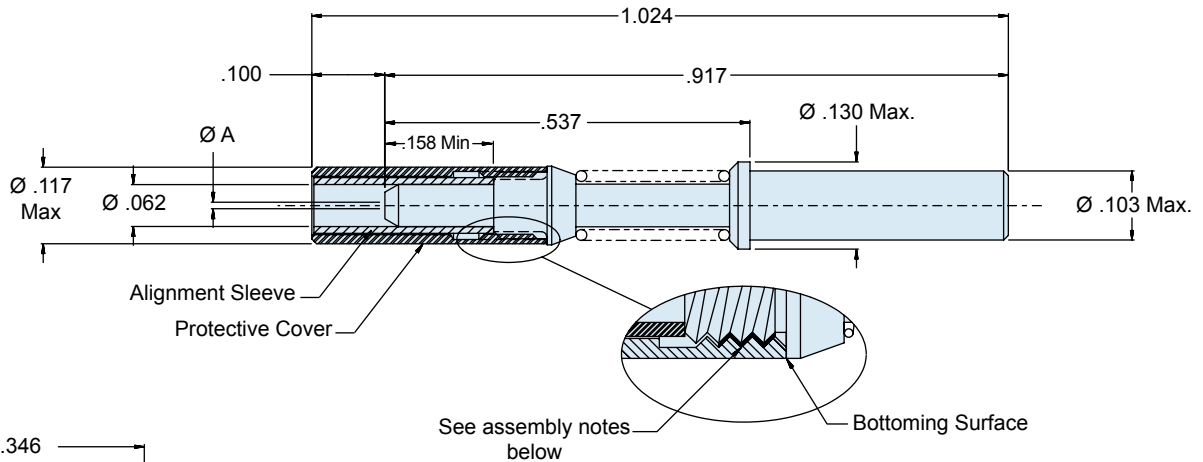
D38999  
 Series III

**Large Core Fiber Optic MIL-DTL-38999 Type Size 16 Socket Terminus**

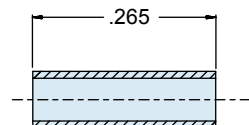

| Part Number  | Fiber Size Core/Cladding (Microns) | ØA (Microns) |
|--------------|------------------------------------|--------------|
| 181-035-600  | 600 Micron                         | 610.0        |
| 181-035-1000 | 1000 Micron (Plastic)              | 1117.0       |

Ceramic alignment sleeve supplied with terminus. Add **K** to the end of part number development to supply with optional stainless steel alignment sleeve e.g. 181-035-1000K.

| Accessories |                                  |
|-------------|----------------------------------|
| Part Number | Terminus Accessory               |
| 181-001-S   | Ceramic Alignment Sleeve         |
| 181-001-K   | Stainless Steel Alignment Sleeve |
| 181-001-C   | Protective Cover                 |



Protective Cover



Alignment Sleeve

**Material and Finish**

Ferrule: Stainless Steel/Passivate  
 Alignment Sleeve: Zirconia Ceramic or Stainless Steel/Passivate  
 Terminus Assembly: Stainless Steel/Passivate  
 Spacer, Spring, and Cover: Stainless Steel/Passivate

**Tools and Accessories/Assembly Notes**

Alignment sleeve and protective cover can also be ordered separately (see Table II)  
 Threaded Protective cover must be retained using Threadlocker "Loctite 222" prior to insertion and fully seated against terminus body as shown. See Glennair assembly procedure GAP-015 for complete termination instruction.  
 Recommended Insertion/Extraction Tool: P/N M81969/14-03 or equivalent



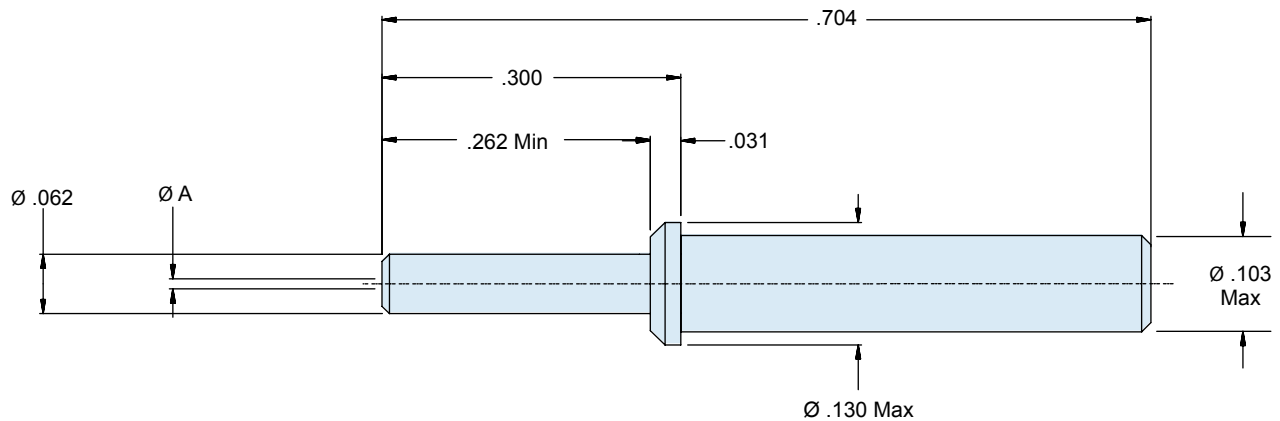
**181-036**  
**Large Core Optical Fiber Pin Terminus**  
**MIL-DTL-38999 Type**



**Large Core Fiber Optic MIL-DTL-38999 Type Size 16 Pin Terminus**



| Part Number  | Fiber Size Core/Cladding | ØA (Microns) |
|--------------|--------------------------|--------------|
| 181-036-600  | 600 Micron               | 610.0        |
| 181-036-1000 | 1000 Micron (Plastic)    | 1117.0       |



**Material and Finish**

Ferrule and Terminus Body: Stainless Steel/Passivate

**Tools and Assembly Notes**

Recommended Insertion/Extraction Tool: P/N M81969/14-03 or equivalent  
 See Glenair Assembly Procedure GAP-015 for complete termination instruction.

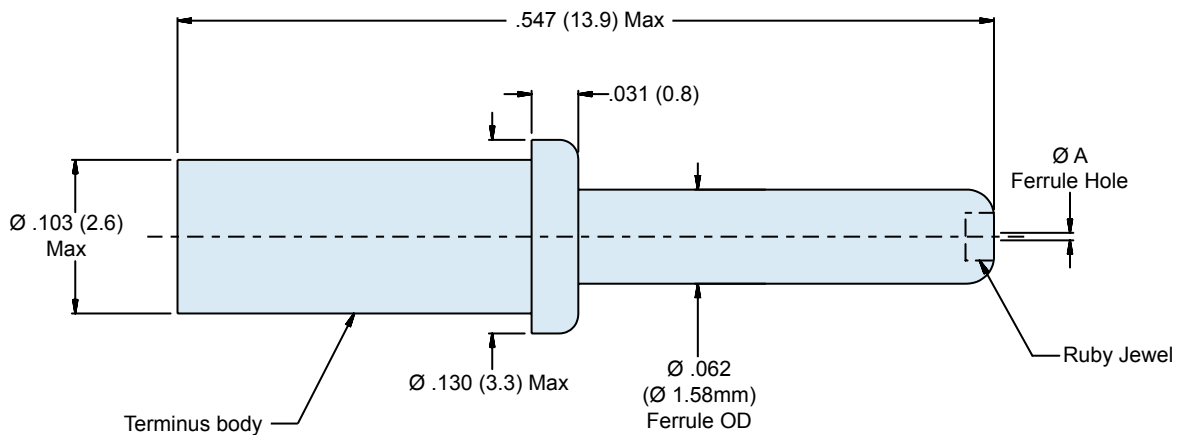
D38999  
 Series III

**MIL-DTL-38999 Type Fiber Optic Jewel Pin Terminus**


| Terminus Accessories |  |
|----------------------|--|
| Part Number          | Terminus Accessory                             |
| 189-070-6            | Reducing Sleeve<br>Ø1.90mm Max<br>Cable Jacket |

| Part Number | Ferrule Hole<br>Ø A (Microns) | Typical Fiber Size<br>Core/Cladding/Coating<br>(Microns) |
|-------------|-------------------------------|--|
| 181-052-125 | 125.0                         | 9/125 (Single Mode)                                      |
| 181-052-127 | 127.0                         | 50/125, 62.5/125   |
| 181-052-142 | 142.0                         | 100/140  |
| 181-052-157 | 157.0                         | 62.5/125/155   |
| 181-052-175 | 175.0                         | 100/140/172  |
| 181-052-236 | 236.0                         | 200/230  |

Add L to the end of part number development to supply less epoxy preforms e.g. 181-052-127L. Omit to include preforms.


**Material and Finish**

Terminus Body: Stainless steel/passivate  
 Jewel, Ruby: Synthetic ruby or sapphire

**Assembly**

Recommended insertion/extraction tool: M81969/14-03 or equivalent

**181-053**  
**Size 16 Fiber Optic Jewel Socket Terminus**  
**MIL-DTL-38999 Type**



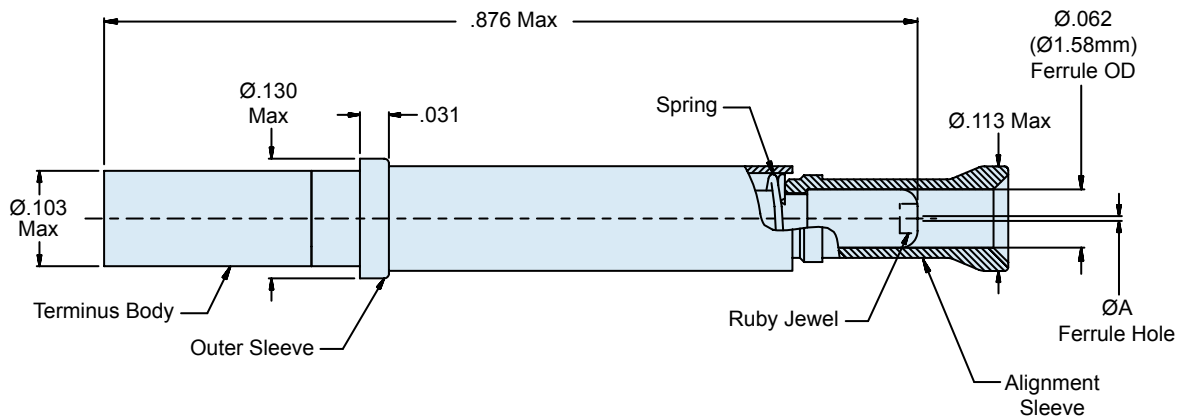
**Fiber Optic Jewel Socket Terminus for MIL-DTL-38999 Type Connectors**



| Part Number                 | Ferrule Hole<br>Ø A (Microns) | Typical Fiber Size<br>Core/Cladding/<br>Coating (Microns) |
|-----------------------------|-------------------------------|---|
| <a href="#">181-053-125</a> | 125.0                         | 9/125 (Single Mode)                                       |
| <a href="#">181-053-127</a> | 127.0                         | 50/125, 62.5/125  |
| <a href="#">181-053-142</a> | 142.0                         | 100/140   |
| <a href="#">181-053-157</a> | 157.0                         | 62.5/125/155  |
| <a href="#">181-053-175</a> | 175.0                         | 100/140/172   |
| <a href="#">181-053-236</a> | 236.0                         | 200/230   |

Add **L** to the end of part number development to supply less epoxy preforms e.g. [181-053-127L](#). Omit to include preforms.

| Terminus Accessories      |  |
|---------------------------|--|
| Part Number               | Terminus Accessory                             |
| <a href="#">189-070-6</a> | Reducing Sleeve<br>Ø1.90mm Max<br>Cable Jacket |
| <a href="#">189-075</a>   | Alignment Sleeve                               |
| <a href="#">182-031</a>   | Alignment Sleeve<br>Installation Tool          |
| <a href="#">182-032</a>   | Alignment Sleeve<br>Extraction Tool            |



**Material and Finish**

Terminus Body: Stainless Steel/Passivate  
 Jewel/Ruby: Synthetic Ruby or Sapphire  
 Alignment Sleeve: Stainless Steel/Passivate  
 Outer Sleeve: Stainless Steel/Passivate  
 Spring: Stainless Steel/Passivate.

**Accessories and Assembly Notes**

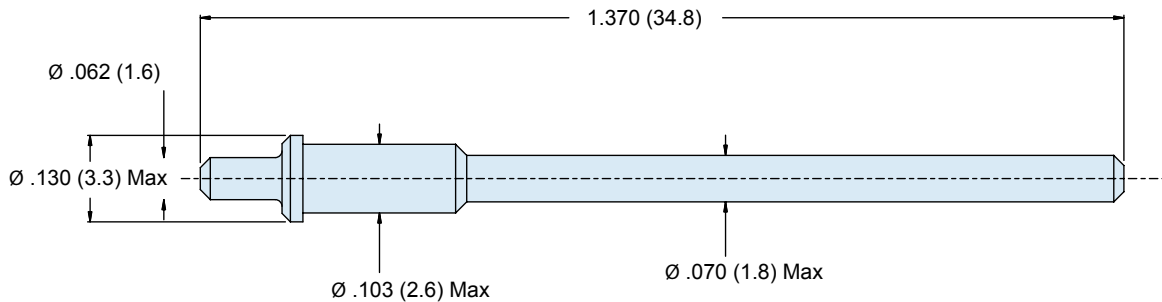
Alignment Sleeve, Outer Sleeve, and Spring packaged loose with assembly.  
 Recommended insertion/extraction tool: M81969/14-03 or equivalent.

D38999  
 Series III

**Dummy Terminus designed to seal against the rear grommet and interfacial seal of MIL-DTL-38999 connectors.**



| Part Number | Description             |
|-------------|-------------------------|
| 181-048-16  | Dummy Terminus, size 16 |



#### Material and Finish

Terminus: High Grade Engineering Thermoplastic

#### Assembly

Recommended insertion/extraction tool: P/N: M81969/14-03 or equivalent

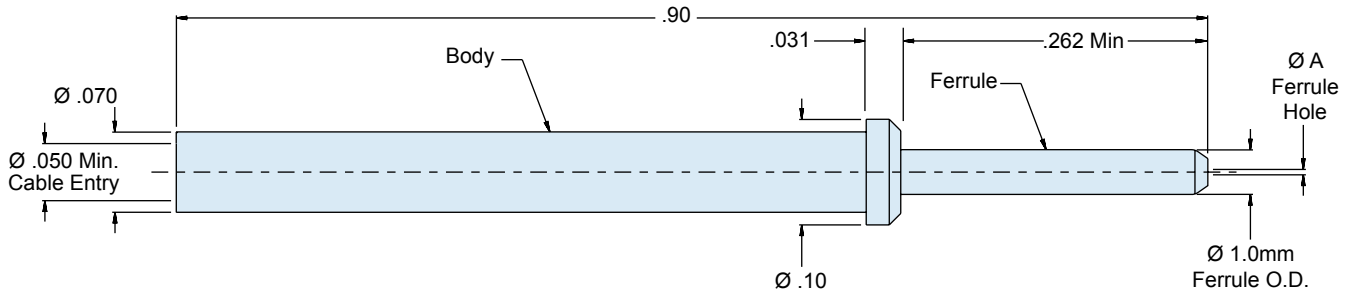
**181-065**  
**Size 20 Pin Terminus**  
**MIL-DTL-38999 Type**



**MIL-DTL-38999 Type Size 20 Pin Terminus**



| Part Number         | Fiber Size Core/Cladding (Microns) | Typ. Fiber Type | ØA (Microns) |
|---------------------|------------------------------------|-----------------|--------------|
| <b>181-065-1255</b> | 9/125                              | Single Mode     | 125.5        |
| <b>181-065-126</b>  | 50/125<br>62.5/125                 | Multi Mode      | 126.0        |



**Material and Finish**

Ferrule: Zirconia Ceramic  
 Body: Stainless Steel/Passivate

**Assembly Notes**

Consult factory for appropriate termination and assembly tools/procedures.

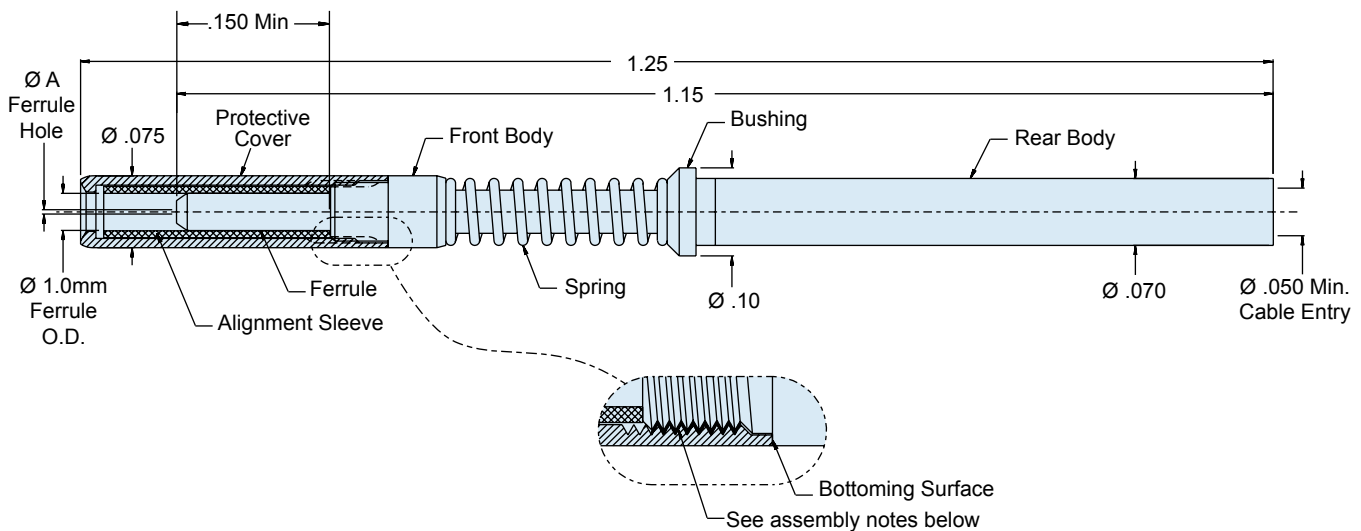
**D38999**  
 Series III

**MIL-DTL-38999 Type Size 20 Socket Terminus**


| Part Number         | Fiber Size<br>Core/Cladding | Ø A<br>(Microns) | Typ. Fiber<br>Type |
|---------------------|-----------------------------|------------------|--------------------|
| <b>181-066-1255</b> | 9/125                       | 125.5            | Single Mode        |
| <b>181-066-126</b>  | 50/125 & 62.5/125           | 126.0            | Multi Mode         |

**Terminus Accessories**

| Part Number      | Terminus Accessory       |
|------------------|--------------------------|
| <b>181-066-S</b> | Ceramic Alignment Sleeve |
| <b>181-066-C</b> | Protective Cover         |


**Material and Finish**

Material / Finish:

Ferrule: Zirconia Ceramic

Alignment Sleeve: Zirconia Ceramic

Body (Front and Rear): Stainless Steel/Passivate

Protective Cover: Stainless Steel/Passivate

Bushing: Stainless Steel/Passivate

Spring: Stainless Steel/Passivate

**Assembly Notes**

Protective cover must be retained using Threadlocker "Loctite 222" prior to insertion and fully seated against terminus body as shown.

**181-039**  
**M29504/14**  
**Size 16 MIL-PRF-28876 Type Fiber Optic Pin Terminus**

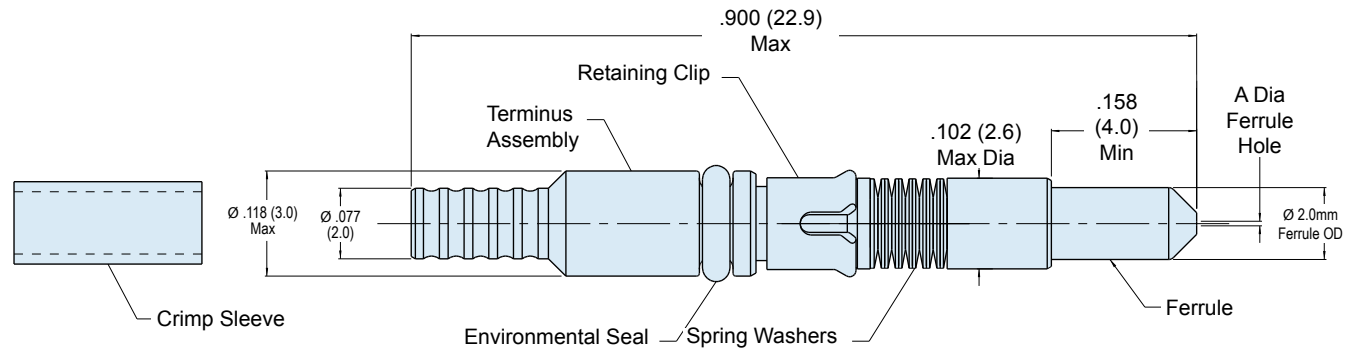


M28876

**Size 16 M29504/14 Fiber Optic Pin Terminus for MIL-PRF-28876 Connectors**



| Part Number                          | ØA (Microns) | Fiber Type  | Fiber Size Core/Cladding (Microns) | Mil-Spec Part Number (Reference) |
|--------------------------------------|--------------|-------------|------------------------------------|----------------------------------|
| 181-039-1250C                        | 125.0        | Single Mode | 9/125                              | M29504/14-4140C                  |
| 181-039-1255C                        | 125.5        | Single Mode | 9/125                              | N/A                              |
| 181-039-1260C                        | 126.0        | Single Mode | 9/125                              | M29504/14-4141C                  |
|                                      |              | Multi Mode  | 50/125, 62.5/125                   | M29504/14-4131C                  |
| 181-039-1270C                        | 127.0        | Multi Mode  | 50/125, 62.5/125                   | M29504/14-4132C                  |
| 181-039-1420C                        | 142.0        | Multi Mode  | 100/140                            | M29504/14-4135C                  |
| Consult factory for additional sizes |              |             |                                    |                                  |



| Tools and Accessories |  |
|-----------------------|--|
| Part Number           | Terminus Accessory                                   |
| 265-008               | Crimp Sleeve<br>Ø2.4mm Max Jacket<br>(Mil-Spec Type) |

**Material and Finish**

Ferrule: Zirconia Ceramic  
 Terminus Assembly: Stainless Steel/ Passivate  
 Retaining Clip, Spring Washers: Spring Alloy  
 Seal: Fluorosilicone  
 Crimp Sleeve: Brass Alloy/Nickel

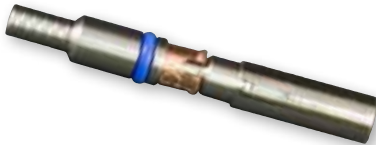
**Notes**

Crimp sleeve is supplied with terminus assembly and may be ordered separately (see Table II). For terminus less crimp sleeve, omit **C** from end of part number.

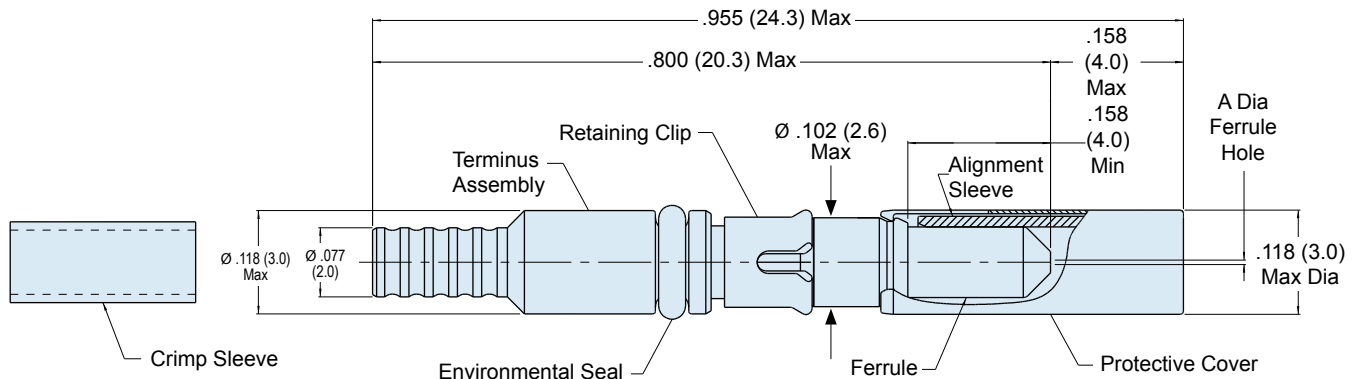
**Assembly**

See Glenair GAP-036 for termination procedure and assembly tools.  
 Dummy terminus part number: 181-051

M28876

**Size 16 M29504/15 Fiber Optic Socket Terminus  
for MIL-PRF-28876 Connectors**


The use of fiber optics in shipboard and ship-to-shore data transmissions is growing rapidly, and the tight-tolerance MIL-PRF-28876 interconnect has become the universal standard for Navy shipboard applications. Glenair's qualified offering—including QPL'd MIL-PRF-29504/14 and /15 contacts—delivers all the necessary performance from precise optical alignment, to environmental protection, corrosion resistance and weight reduction. The Glenair MIL-PRF-28876 terminus is specifically geared for upgrade and retrofit applications where extending system life-cycles and reducing cost of ownership are principle requirements.


**Material and Finish**

Alignment Sleeve, Ferrule: Zirconia Ceramic  
 Protective cover: Spring Alloy / Nickel  
 Terminus Assembly: Stainless Steel / Passivate  
 Retaining Clip: Spring Alloy  
 Seal: Fluorosilicone  
 Crimp Sleeve: Brass Alloy / Nickel

**Tools and Accessories/Assembly Notes**

Dummy Terminus: Part Number 181-051  
 Crimp sleeve is supplied with terminus assembly and may be ordered separately (see Table II). For terminus less crimp sleeve omit **C** from end of part number.  
 Alignment sleeve assembly is supplied with terminus assembly (packaged loose) and may be ordered separately (see Table II).  
 See Glenair GAP-036 for termination procedure and assembly tools.



**181-040**  
**M29504/15**  
**Size 16 Fiber Optic Socket Terminus**  
**For MIL-PRF-28876 Connectors**



| Part Number                          | ØA (Microns) | Fiber Type  | Fiber Size Core/Cladding (Microns) | Mil-Spec Part Number (Reference) |
|--------------------------------------|--------------|-------------|------------------------------------|----------------------------------|
| <b>181-040-1250C</b>                 | 125.0        | Single Mode | 9/125                              | M29504/15-4180C                  |
| <b>181-040-1255C</b>                 | 125.5        | Single Mode | 9/125                              | N/A                              |
| <b>181-040-1260C</b>                 | 126.0        | Single Mode | 9/125                              | M29504/15-4181C                  |
|                                      |              | Multi Mode  | 50/125, 62.5/125                   | M29504/15-4171C                  |
| <b>181-040-1270C</b>                 | 127.0        | Multi Mode  | 50/125, 62.5/125                   | M29504/15-4172C                  |
| <b>181-040-1420C</b>                 | 142.0        | Multi Mode  | 100/140                            | M29504/15-4175C                  |
| Consult factory for additional sizes |              |             |                                    |                                  |

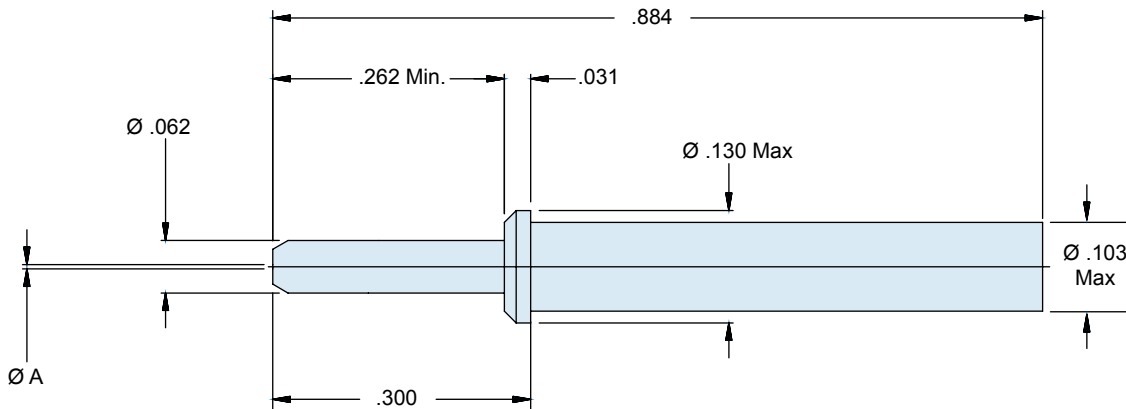
| Accessories    |   |
|----------------|---|
| Part Number    | Terminus Accessory                                |
| <b>265-010</b> | Alignment Sleeve Assembly                         |
| <b>265-008</b> | Crimp Sleeve Ø2.4mm<br>Max Jacket (Mil-Spec type) |

Mighty  
Mouse

### Size 16 Fiber Optic Pin Terminus for Series 80 Mighty Mouse Connectors



| Part Number | ØA (Microns) | Fiber Size: Core/<br>Cladding (Microns) | Typ. Fiber Type |
|-------------|--------------|---|-----------------|
| 181-057-125 | 125.5        | 9/125 (Single Mode)                     | Single Mode     |
| 181-057-126 | 126.0        | 50/125 and 62.5/125                     | Multi Mode      |



#### Material and Finish

Ferrule: Zirconia Ceramic

Terminus Assembly: Stainless Steel / Passivate

#### Assembly Notes

See Glenair GAP-039 for termination procedure and assembly tools.

Recommended insertion/extraction tool: P/N M81969/14-03

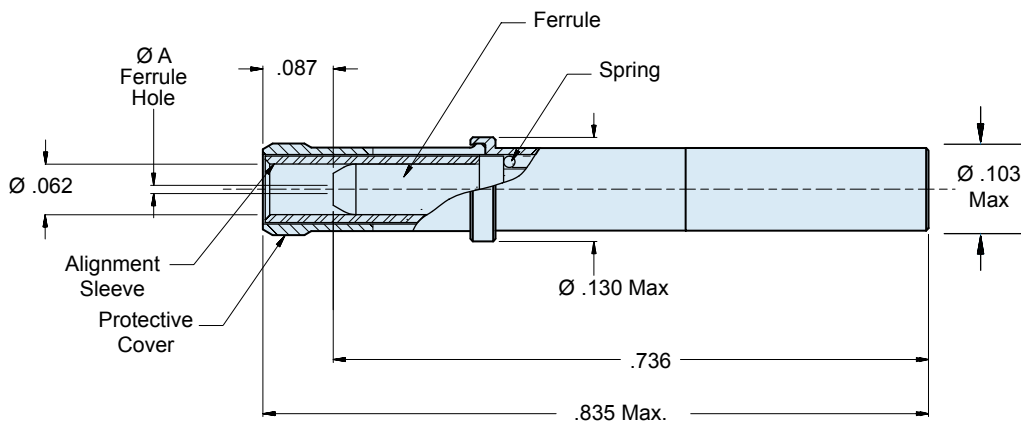
**181-075**  
**Size 16 Fiber Optic Socket Terminus**  
**For Series 80 Mighty Mouse**



**Size 16 Fiber Optic Socket Terminus for Series 80 Mighty Mouse Connectors**



| Part Number | ØA (Microns) | Fiber Size: Core/Cladding (Microns) | Typ. Fiber Type |
|-------------|--------------|-------------------------------------|-----------------|
| 181-075-125 | 125.5        | 9/125                               | Single Mode     |
| 181-075-126 | 126.0        | 50/125, 62.5/125                    | Multi Mode      |



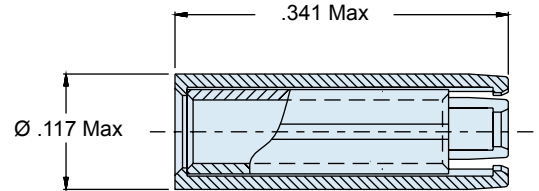
| Accessories |                          |
|-------------|--------------------------|
| Part Number | Terminus Accessory       |
| 181-001-S   | Ceramic Alignment Sleeve |
| 181-075-C   | Protective Cover         |

**Material and Finish**

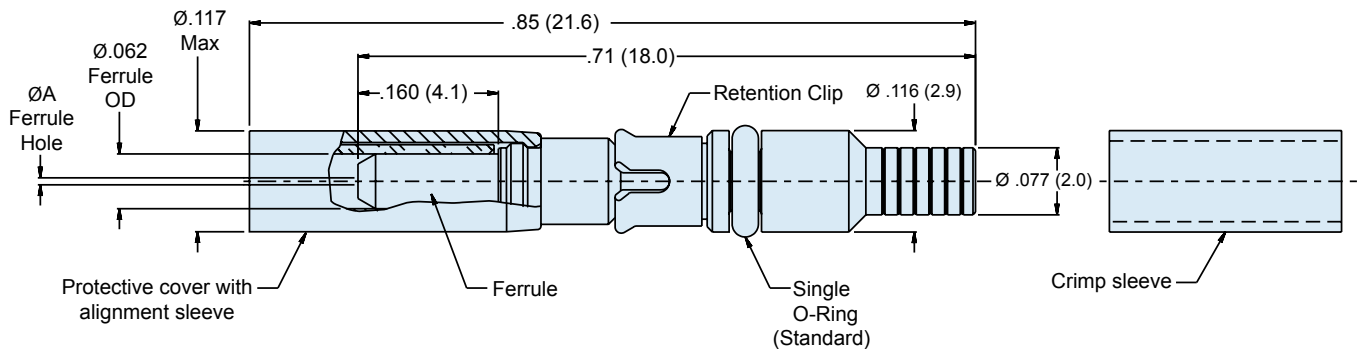
Ferrule: Zirconia Ceramic  
 Terminus Assembly: Stainless Steel / Passivate  
 Spring: Stainless Steel / Passivate  
 Protective Cover: Spring Alloy / Nickel

**Assembly Notes**

See Glenair GAP-039 for termination procedure and assembly tools.  
 Recommended insertion/extraction tool: P/N M81969/14-03  
 Ceramic alignment sleeve and protective cover are supplied with terminus assembly and may be ordered separately (See Table II).

**Size 16 COTS Front Release Fiber Optic Socket Terminus**


Protective cover with captive alignment sleeve


**Material and Finish**

Ferrule, Alignment Sleeve: Zirconia Ceramic  
 Protective Cover: Spring Alloy  
 Terminus Assembly: Stainless Steel/Passivate  
 Retention Clip: Spring Alloy  
 O-Ring: Fluorosilicone  
 Crimp Sleeve: Brass Alloy/Nickel

**Tools and Accessories/Assembly Notes**

See Glenair GAP-031 and GAP-031B for complete assembly instructions.  
 Alignment sleeve assembly (protective cover and alignment sleeve) and crimp sleeve are supplied with assembly. Spares may be ordered separately (See Table II).  
 See 181-051 for dummy terminus.

**181-011**  
**COTS Fiber Optic Socket Terminus**  
**Size 16 Front Release**



| Part Number  | Fiber Size:<br>Core/Cladding/Coating<br>(Microns) | Ø A (Microns) |
|--------------|---|---------------|
| 181-011-125  | 9/125 (Single Mode)                               | 125.5         |
| 181-011-126S | 9/125 (Single Mode)                               | 126.0         |
| 181-011-126  | 50/125, 62.5/125                                  | 126.0         |
| 181-011-142  | 100/140   | 142.0         |
| 181-011-156  | 62.5/125/155 (Polyimide)                          | 156.0         |
| 181-011-173  | 100/140/172 (Polyimide)                           | 173.0         |
| 181-011-175  | 100/140/172 (Polyimide)                           | 175.0         |
| 181-011-231  | 200/225   | 231.0         |
| 181-011-236  | 200/230   | 236.0         |
| 181-011-286  | 200/280   | 286.0         |
| 181-011-448  | 400/440   | 448.0         |

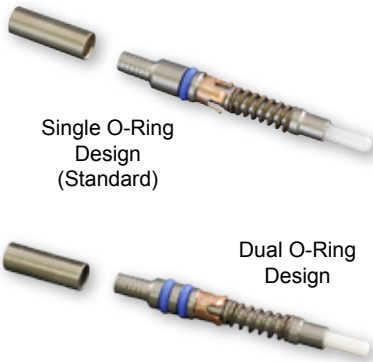
Ceramic alignment sleeve supplied with terminus. Add **K** to the end of part number development to supply with optional stainless steel alignment sleeve e.g. 181-011-126**K**.

For dual O-ring design, add **D** to end of part number development (e.g. 181-011-126**KD**)

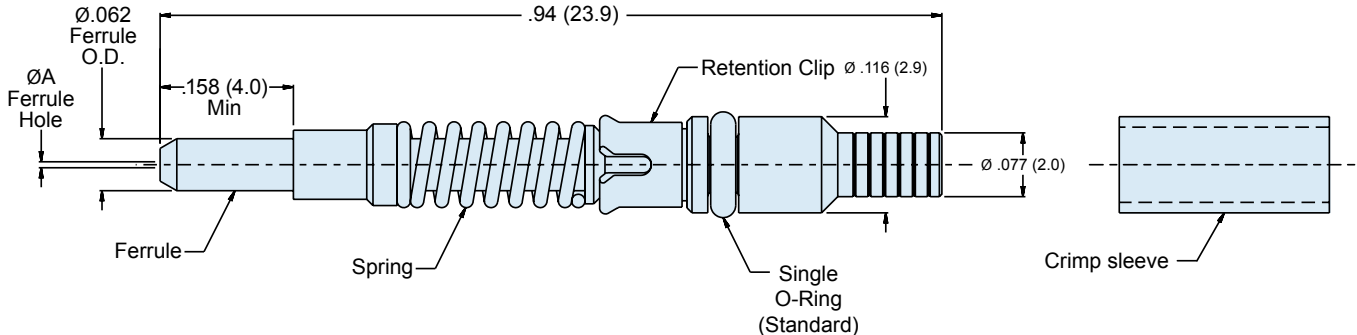


| Accessories |  |
|-------------|--|
| Part No.    | Terminus Accessories                                   |
| 181-011-S   | Protective Cover with Ceramic Alignment Sleeve         |
| 181-011-K   | Protective Cover with Stainless Steel Alignment Sleeve |
| 265-002     | Crimp Sleeve, Ø2.2mm Max Jacket                        |

## Size 16 COTS Front Release Fiber Optic Pin Terminus



The unique design of the Glenair 181-011 and 181-012 series fiber optic contact allows for rapid integration of optical media in a broad range of cylindrical and rectangular connector packages and systems. By placing the retention and environmental sealing components directly on the termini, Glenair is able to fabricate unique fiber optic connector shell packages without costly tooling and engineering. The secret is the integrated retention clip and environmental O-ring located directly on the contact. Glenair's in-house expertise and capacity for machining connector shells to the precise tolerances required in optical connection systems is the other half of the story. Finished connector systems perform at insertion-loss levels equivalent to other high-performance, tactical fiber optic systems such as MIL-DTL-38999 and MIL-PRF-28876.



### Material and Finish

Ferrule: Zirconia Ceramic

Terminus Assembly: Stainless Steel/Passivate

Spring: Stainless Steel/Passivate

Retention Clip: Spring Alloy

O-Ring: Fluorosilicone

Crimp Sleeve: Brass Alloy/Nickel

### Tools and Accessories/Assembly Notes

Crimp sleeve supplied with assembly. Spares may be ordered separately (see Table II).

See Glenair GAP-031 and GAP-031B for complete assembly instructions.

See 181-051 for dummy terminus.

**181-012**  
**COTS Fiber Optic Pin Terminus**  
**Size 16 Front Release**



| Part Number   | Fiber Size<br>Core/Cladding/Coating<br>(Microns) | Ø A<br>(Microns) |
|---|--|------------------|
| 181-012-125   | 9/125 (Single Mode)                              | 125.5            |
| 181-012-126S  | 9/125 (Single Mode)                              | 126.0            |
| 181-012-126   | 50/125, 62.5/125                                 | 126.0            |
| 181-012-142   | 100/140  | 142.0            |
| 181-012-156   | 62.5/125/155 (Polyimide)                         | 156.0            |
| 181-012-173   | 100/140/172 (Polyimide)                          | 173.0            |
| 181-012-175   | 100/140/172 (Polyimide)                          | 175.0            |
| 181-012-231   | 200/225  | 231.0            |
| 181-012-236   | 200/230  | 236.0            |
| 181-012-286   | 200/280  | 286.0            |
| 181-012-448   | 400/440  | 448.0            |
| For dual O-ring design, add <b>D</b> to end of part number development (e.g. 181-012-126 <b>D</b> ) |  |                  |

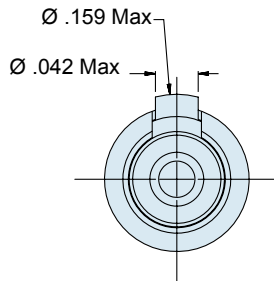
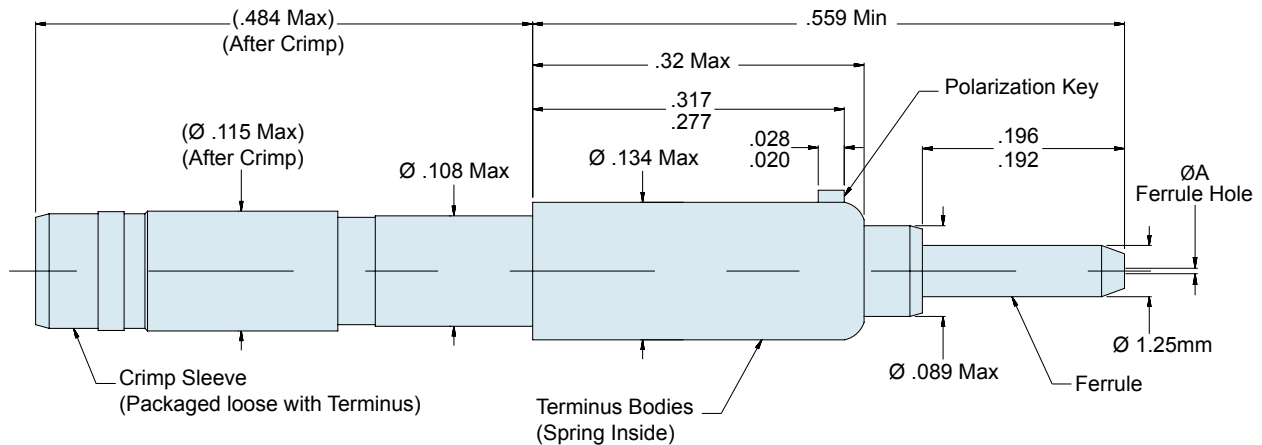


| Terminus Tools and Accessories |                                  |
|--------------------------------|----------------------------------|
| Part No.                       | Terminus Accessories             |
| 265-002                        | Crimp Sleeve, Ø 2.2mm Max Jacket |

**Genderless Fiber Optic Terminus for ARINC 801 Connectors, Keyed, Rear Release**


| Part Number           | ØA (Microns) | Typ. Fiber Type | Pull-Proof |
|-----------------------|--------------|-----------------|------------|
| <b>181-076-N-1255</b> | 125.5        | Single Mode     | no         |
| <b>181-076-N-1265</b> | 126.0        | Single Mode     | no         |
| <b>181-076-N-126</b>  | 126.0        | Multi Mode      | no         |
| <b>181-076-P-1255</b> | 125.5        | Single Mode     | yes        |
| <b>181-076-P-1265</b> | 126.0        | Single Mode     | yes        |
| <b>181-076-P-126</b>  | 126.0        | Multi Mode      | yes        |

Consult factory for additional sizes.


**Material and Finish**

Ferrule: Zirconia Ceramic  
 Terminus Bodies: Brass Alloy/Nickel  
 Crimp Sleeve: Brass Alloy/Nickel  
 Spring: Stainless Steel/Passivate

**Specifications**

Terminus Accommodates cable diameter 1.73mm (.068) minimum and 2.00mm (.079) maximum.  
 Pull-proof termini are for use with loose structure cable.



187-079

**Size 16 M29504/6 Type Pin Terminus**  
For ARINC 600 and 404 Connectors

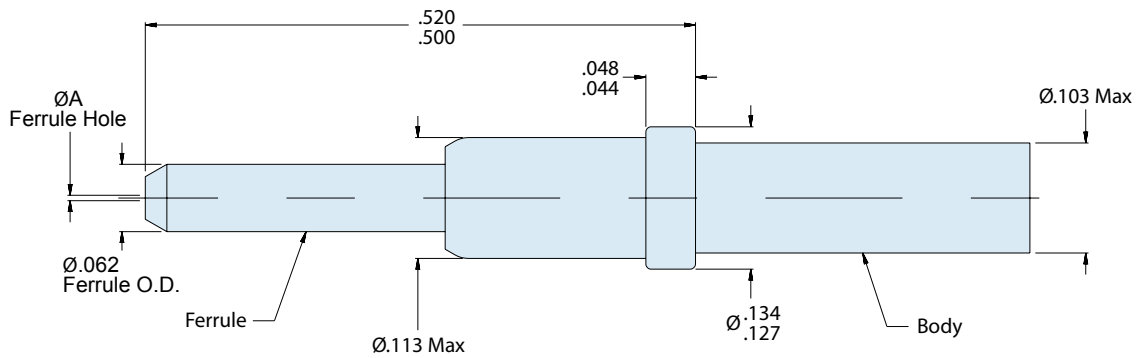


Fiber Optic

**Size 16 Fiber Optic M29504/6 Type Pin Terminus**



| Part Number | Fiber Size Core/Cladding/Coating (Microns) | ØA (Microns) |
|-------------|--|--------------|
| 187-079-125 | 9/125 (Single Mode)                        | 125.0        |
| 187-079-126 | 50/125 & 62.5/125                          | 126.0        |
| 187-079-142 | 100/140                                    | 142.0        |
| 187-079-156 | 62.5/125/155 (Polyimide)                   | 156.0        |
| 187-079-175 | 100/140/172 (Polyimide)                    | 175.0        |
| 187-079-231 | 200/230                                    | 231.0        |
| 187-079-236 | 200/233                                    | 236.0        |
| 181-079-286 | 200/280                                    | 286.0        |
| 181-079-448 | 400/440                                    | 448.0        |



**Material and Finish**

Ferrule: Zirconia Ceramic  
Body: Stainless Steel/Passivate

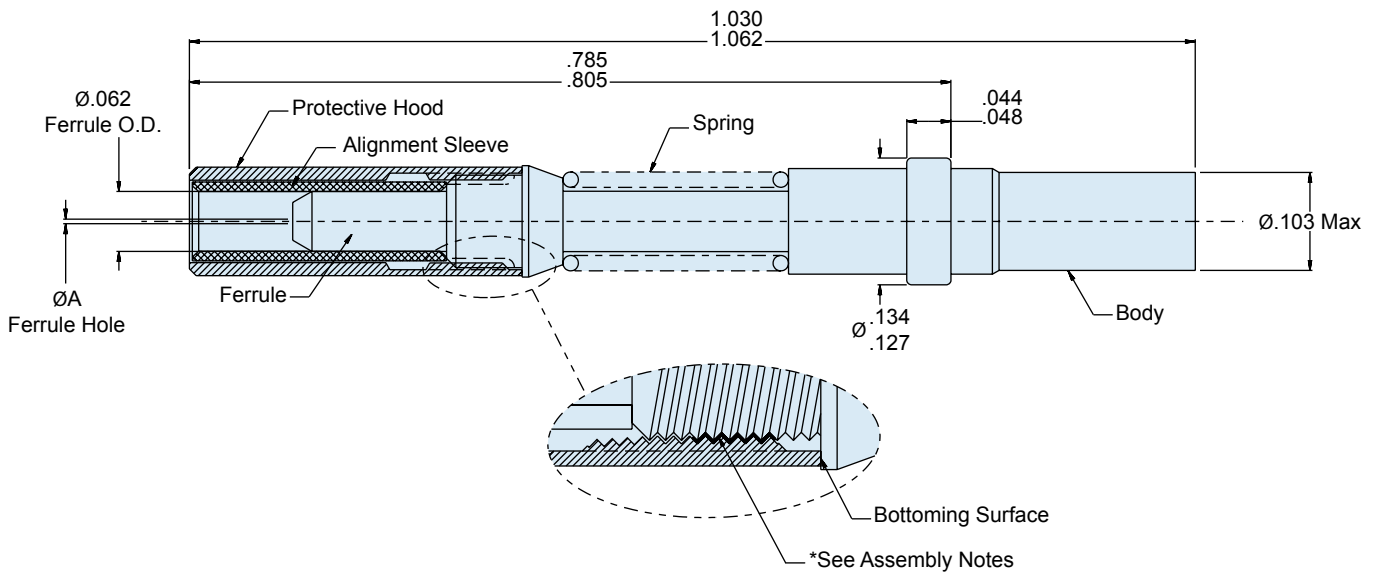
**Specifications**

Terminus is also designed for use with Glenair 187-100 Combo D-Sub Receptacle connector.

## Size 16 Fiber Optic M29504/7 Type Socket Terminus



The precision design of the Glenair 187-080 and 187-079 series fiber optic contacts for ARINC type connectors enables reliable and repeatable integration of optical media into industry-standard ARINC connector systems. The Glenair M29504/7 Type socket terminus and M29504/6 Type pin terminus provide low dB loss performance. The precision ceramic ferrule and alignment sleeve ensure precise optical alignment of fiber media. Available for singlemode and multimode glass fiber as well as 155.0 and 172.0 micron polyimide media.



### Material and Finish

Ferrule, Alignment Sleeve: Zirconia Ceramic  
 Body, Spring and Protective Hood: Stainless Steel/Passivate

### Tools and Accessories/Assembly Notes

Alignment Sleeve and Protective Cover can also be ordered separately (Table II)  
 \*Threaded Protective cover must be retained using Threadlocker "Loctite 222" prior to insertion and fully seated against terminus body as shown.

**187-080**  
**Size 16 M29504/7 Type Socket Terminus**  
**For ARINC 600 and 404 Connectors**



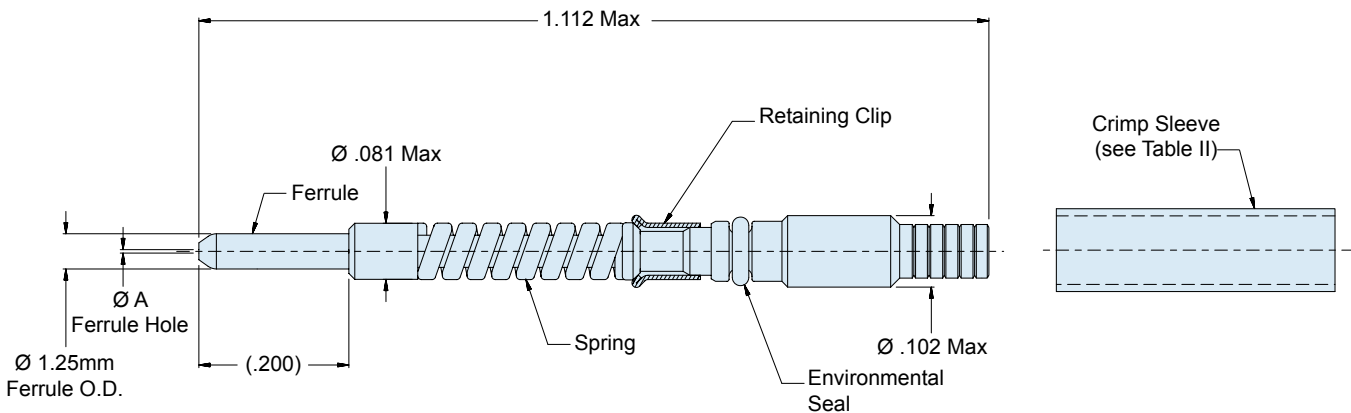
| Part Number        | Fiber Size<br>Core/Cladding/Coating<br>(Microns) | ØA (Microns) |
|--------------------|--|--------------|
| <b>187-080-125</b> | 9/125 (Single Mode)                              | 125.0        |
| <b>187-080-126</b> | 50/125 & 62.5/125                                | 126.0        |
| <b>187-080-142</b> | 100/140  | 142.0        |
| <b>187-080-156</b> | 62.5/125/155 (Polyimide)                         | 156.0        |
| <b>187-080-175</b> | 100/140/172 (Polyimide)                          | 175.0        |
| <b>187-080-231</b> | 200/230  | 231.0        |
| <b>187-080-236</b> | 230/233  | 236.0        |
| <b>187-080-286</b> | 200/280  | 286.0        |
| <b>187-080-448</b> | 400/440  | 448.0        |

| Terminus Accessories |                          |
|----------------------|--------------------------|
| Part Number          | Terminus Accessory       |
| <b>181-001-S</b>     | Ceramic Alignment Sleeve |
| <b>181-001-C</b>     | Protective Cover         |



**Size 18 Non-Keyed Front Release Glenair High Density (GHD) Genderless Terminus**


The Glenair High Density Fiber Optic Connector System is designed for applications that require reduced size and weight as well as outstanding optical and environmental performance. The System offers insertion loss values less than .5dB (typical loss for Glenair terminus is .3 dB). Dense cavity spacing is achieved with an innovative front release terminus design and accommodation for M85045/16 cable. The genderless 18 gauge GHD contact delivers nearly double the density of M28876 and D38999 with superior optical performance.


**Material and Finish**

Ferrule: Zirconia Ceramic  
Terminus Assembly: Stainless Steel/Passivate  
Retaining Clip: Spring Alloy  
Spring: Stainless Steel/Passivate  
Seal: Fluorosilicone  
Crimp Sleeve: Brass Alloy/Nickel

**Tools and Accessories/Assembly Notes**

Crimp Sleeve is supplied with Terminus Assembly, and may be ordered separately (see Table II).  
For terminus less crimp sleeve, omit **C** from end of part number (e.g. **181-056-1260**)  
See Glenair assembly procedure GAP-032 for complete termination instructions.

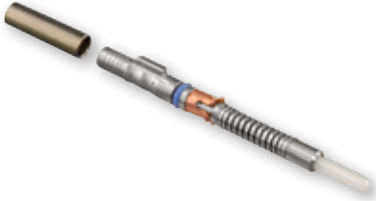
**181-056**  
**GHD • Glenair High Density**  
**Fiber Optic Genderless Terminus**  
**Size 18 Non-Keyed Terminus**



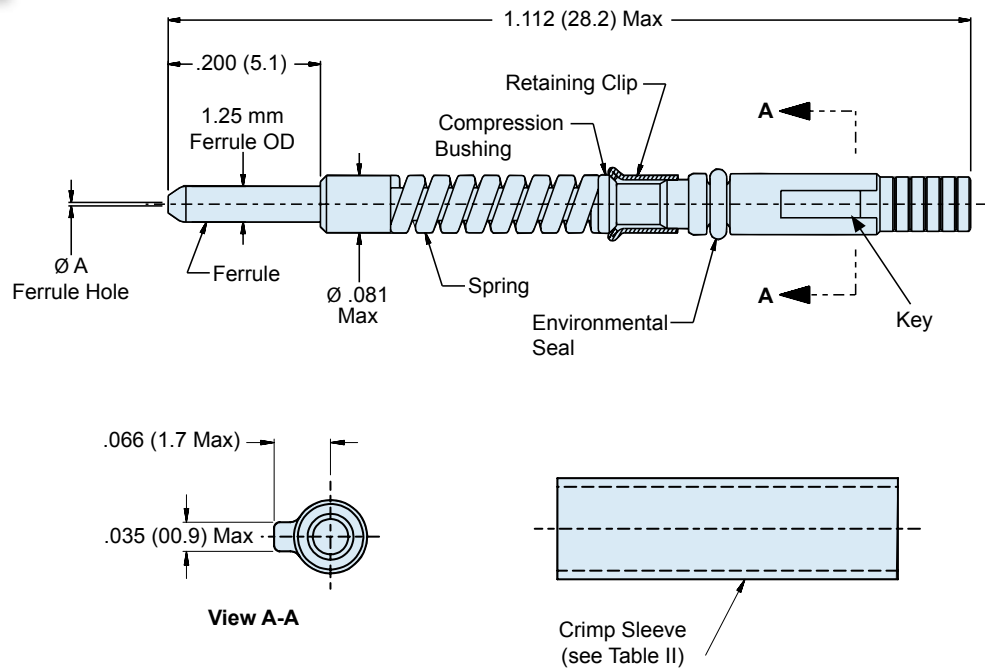
| Part Number   | ØA (Microns) | Typ. Fiber Type           |
|---------------|--------------|---------------------------|
| 181-056-1250C | 125.0        | Single Mode               |
| 181-056-1255C | 125.5        | Single Mode               |
| 181-056-1260C | 126.0        | Single Mode OR Multi Mode |
| 181-056-1270C | 127.0        | Multi Mode                |
| 181-056-1420C | 142.0        | Multi Mode                |
| 181-056-1450C | 145.0        | Multi Mode                |
| 181-056-1560C | 156.0        | Multi Mode                |
| 181-056-1570C | 157.0        | Multi Mode                |
| 181-056-1730C | 173.0        | Multi Mode                |
| 181-056-1750C | 175.0        | Multi Mode                |
| 181-056-2360C | 236.0        | Multi Mode                |
| 181-056-2860C | 286.0        | Multi Mode                |
| 181-056-4480C | 448.0        | Multi Mode                |



| CRIMP SLEEVE |                                |
|--------------|--------------------------------|
| Part Number  | Description                    |
| 265-002      | Crimp Sleeve Ø2.2mm Max Jacket |

**Size 18 Glenair High Density (GHD) Fiber Optic Genderless Terminus,  
Keyed for APC Polish**


The Glenair High Density Fiber Optic Connector System is designed for applications that require reduced size and weight as well as outstanding optical and environmental performance. The System offers insertion loss values less than .5dB (typical loss for Glenair termini is .3 dB). Dense cavity spacing is achieved with an innovative front release terminus design and accommodation for M85045/16 cable. The 181-047 version is equipped with a single keying feature for APC polish.


**Material and Finish**

Ferrule: Zirconia Ceramic  
Terminus Assembly: Stainless Steel/ Passivate  
Retaining Clip: Spring Alloy  
Spring: High Tensile Stainless Steel/ Passivate  
O-Ring: Fluorosilicone  
Crimp Sleeve: Brass Alloy/Nickel

**Tools and Accessories**

Crimp Sleeve is supplied with Terminus Assembly, and may be ordered separately (see Table II). For terminus less crimp sleeve, omit **C** from end of part number (e.g. **181-047-1260**) See Glenair assembly procedure GAP-032 for complete termination instructions.

**181-047**  
**GHD • Glenair High Density**  
**Fiber Optic Genderless Terminus**  
**Size 18 Keyed Terminus for APC Polish**



Fiber Optic

| Part Number   | ØA (Microns) | Typ. Fiber Type           |
|---------------|--------------|---------------------------|
| 181-047-1250C | 125.0        | Single Mode               |
| 181-047-1255C | 125.5        | Single Mode               |
| 181-047-1260C | 126.0        | Single Mode OR Multi Mode |
| 181-047-1270C | 127.0        | Multi Mode                |
| 181-047-1420C | 142.0        | Multi Mode                |
| 181-047-1450C | 145.0        | Multi Mode                |
| 181-047-1560C | 156.0        | Multi Mode                |
| 181-047-1570C | 157.0        | Multi Mode                |
| 181-047-1730C | 173.0        | Multi Mode                |
| 181-047-1750C | 175.0        | Multi Mode                |
| 181-047-2360C | 236.0        | Multi Mode                |
| 181-047-2860C | 286.0        | Multi Mode                |
| 181-047-4480C | 448.0        | Multi Mode                |

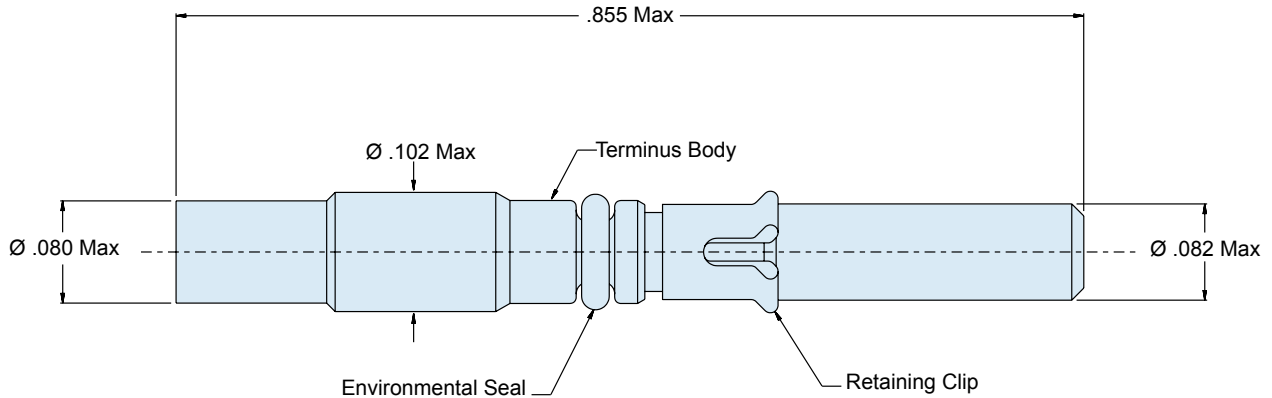
C

| CRIMP SLEEVE |                                |
|--------------|--------------------------------|
| Part Number  | Description                    |
| 265-002      | Crimp Sleeve Ø2.2mm Max Jacket |

## Glenair High Density (GHD) Size 18 Fiber Optic Dummy Terminus



| Description             | Part Number    |
|-------------------------|----------------|
| Dummy Terminus, size 18 | <b>181-058</b> |



### Material and Finish

Terminus Body: Stainless Steel/Passivate  
 Retaining Clip: Spring Alloy  
 Environmental Seal: Fluorosilicone



181-051  
M29504/3-4038  
MIL-PRF-28876 Type Size 16 Dummy Terminus

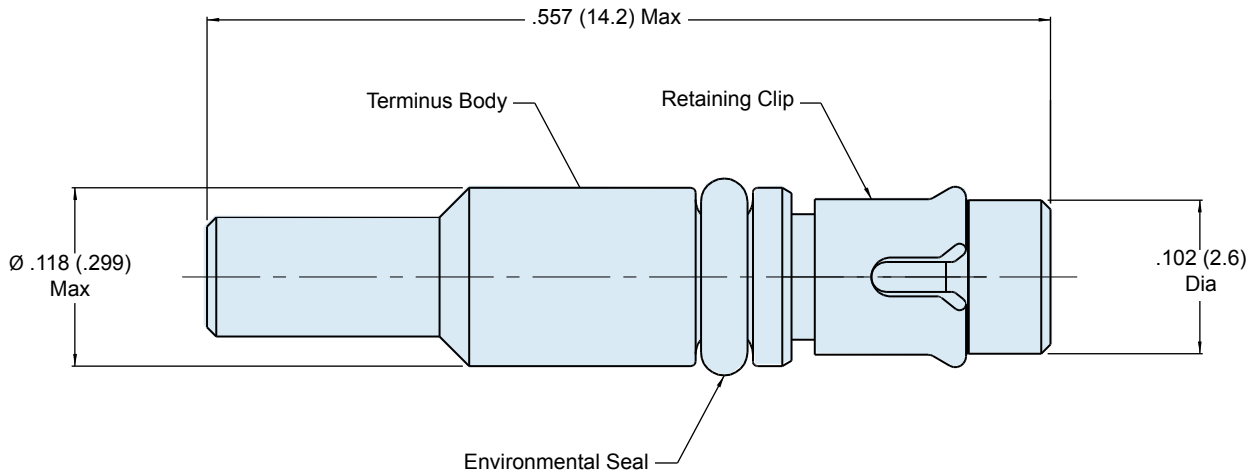


M28876

**MIL-PRF-28876 Size 16 Dummy Terminus**



| Description             | Part Number |
|-------------------------|-------------|
| Dummy Terminus, size 16 | 181-051     |



**Material and Finish**

Terminus Body: Stainless Steel/Passivate  
Retaining Clip: Spring Alloy/Nickel  
Seal: Fluorosilicone

**Tools and Accessories/Assembly Notes**

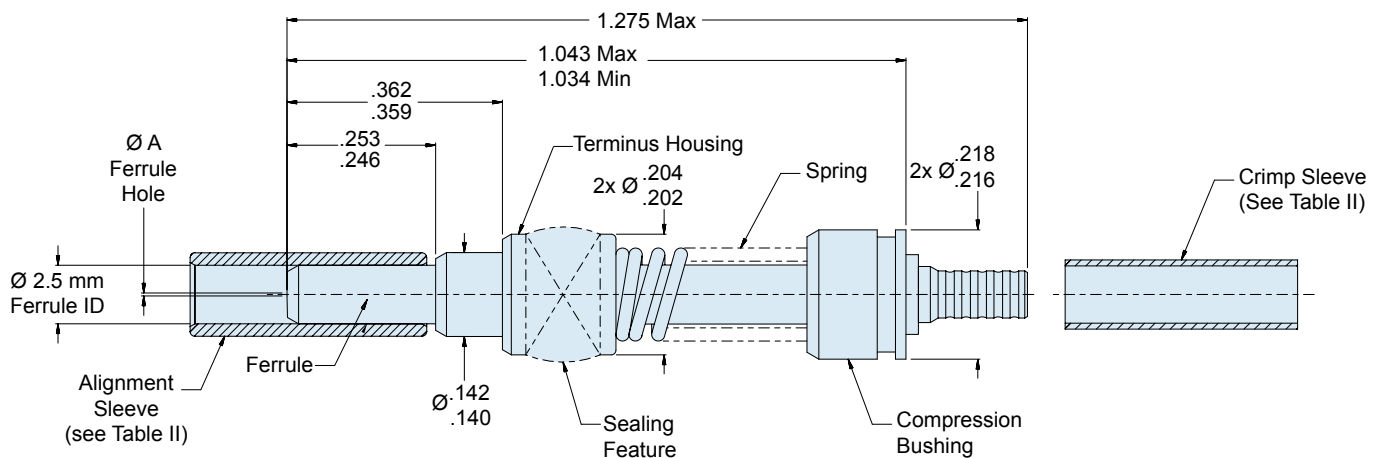
See Glenair GAP-036 for assembly tools and procedures.

GFOCA

## M29504/16 Type Genderless GFOCA Fiber Optic Terminus



Most commonly used by the army for long-run battlefield communications, the GFOCA Connection System is also well suited to dockside naval communications, down-hole drilling and other harsh environment applications. The hermaphroditic system utilizes low insertion loss butt-joint termini and a ruggedized coupling mechanism for reliable, repeatable mating. The genderless mating system is rated to 1000-2000 cycles depending on fiber media selection.



### Material and Finish

Ferrule: Ceramic  
Terminus Housing: Stainless Steel/Passivate  
Spring: Stainless Steel/Passivate  
Compression Bushing: Stainless Steel/Passivate  
Crimp Sleeve: Brass Alloy/Nickel  
Seal(s): Elastomeric Rubber

### Specifications

Terminus is designed to meet the general requirements of MIL-PRF-29504/16  
Terminus is intended for use with the following connectors:  
180-116: Plug, Hermaphroditic  
180-117: Recp, Jam Nut Mount  
180-125: Recp, Flange Mount

### Tools and Accessories/Assembly Notes

Alignment Sleeve (not supplied with Terminus) may be ordered separately (see table II)  
Crimp sleeve is supplied with terminus assembly, and may be ordered separately. For terminus less crimp sleeve, omit **C** from end of part number (e.g. **181-050-1260**)

**181-050**  
**M29504/16 Type**  
**Genderless GFOCA Fiber Optic Terminus**



| Part Number   | ØA (Microns) | Fiber Type (Typical)       |
|---------------|--------------|----------------------------|
| 181-050-1250C | 125.0        | Single Mode                |
| 181-050-1255C | 125.5        | Single Mode                |
| 181-050-1260C | 126.0        | Single Mode AND Multi Mode |
| 181-050-1270C | 127.0        | Multi Mode                 |
| 181-050-1420C | 142.0        | Multi Mode                 |
| 181-050-2300C | 230.0        | Multi Mode                 |

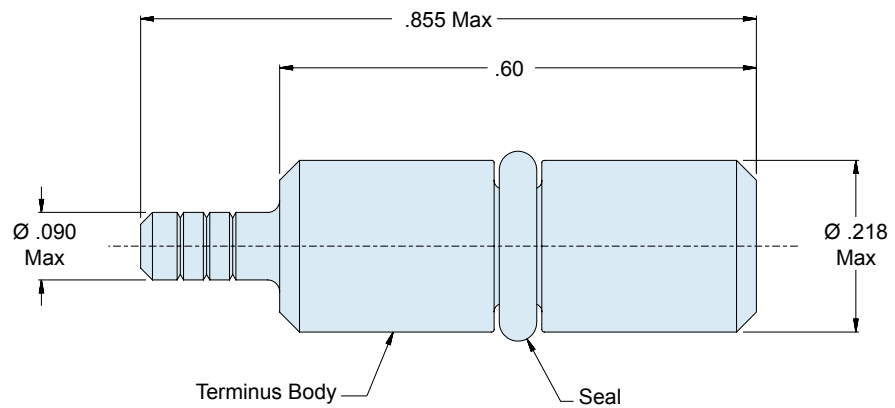
| Accessories |                                       |
|-------------|---------------------------------------|
| Part Number | Terminus Accessory                    |
| 181-050-S   | Split Ceramic Alignment Sleeve        |
| 265-008     | Crimp Sleeve, Ø2.4mm Max Cable Jacket |



GFOCA

**GFOCA Fiber Optic Dummy Terminus**


| Description          | Part Number    |
|----------------------|----------------|
| GFOCA Dummy Terminus | <b>181-059</b> |


**Material and Finish**

Terminus Body: Stainless Steel/Passivate  
 Seal: Elastomer

**Specifications**

Terminus is intended for use with the following connectors:

- 180-116: Plug, Hermaphroditic
- 180-117: Receptacle, Jam Nut Mount
- 180-125: Receptacle, Flange Mount

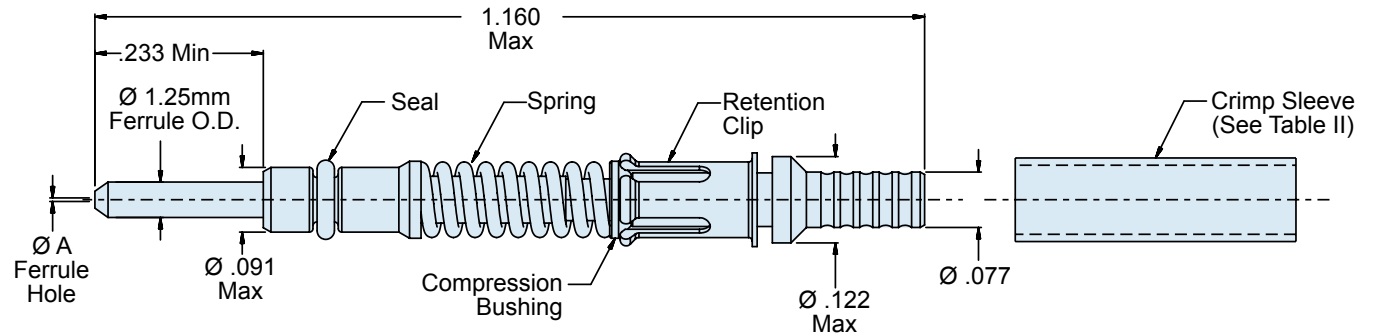
**181-043**  
**MIL-PRF-29504/18 Type**  
**NGCON Fiber Optic Terminus**



**M29504/18 (NGCON) Genderless Rear Release Pin with Integrated Retention Clip**



| Part Number   | ØA (Microns) | Fiber Type (Typical) |                                      | Mil-Spec Style M29504/18-XXX (Reference) |
|---------------|--------------|----------------------|--------------------------------------|--|
|               |              | Typical Fiber Type   | Size Core/Cladding/Coating (Microns) |  |
| 181-043-1250C | 125.0        | SM                   | 9/125                                | -101, -201, -204                         |
| 181-043-1255C | 125.5        | SM                   | 9/125                                | -102, -202, -205                         |
| 181-043-1265C | 126.0        | SM                   | 9/125                                | -103, -203, -206                         |
| 181-043-126C  | 126.0        | MM                   | 50/125, 62.5/125                     | -126, -226                               |
| 181-043-127C  | 127.0        | MM                   | 50/125, 62.5/125                     | -127, -227                               |
| 181-043-142C  | 142.0        | MM                   | 100/140                              | -242                                     |
| 181-043-145C  | 145.0        | MM                   | 100/140                              | -245                                     |
| 181-043-156C  | 156.0        | MM                   | 62.5/125/155                         | -256                                     |
| 181-043-157C  | 157.0        | MM                   | 62.5/125/155                         | -257                                     |
| 181-043-173C  | 173.0        | MM                   | 100/140/172                          | -273                                     |
| 181-043-175C  | 175.0        | MM                   | 100/140/172                          | -275                                     |



| Crimp Sleeve |   |
|--------------|---|
| Part No.     | Description                                     |
| 265-008      | Crimp Sleeve, Ø2.4mm Max Jacket (MIL-SPEC Type) |

**Material and Finish**

Ferrule: Zirconia Ceramic  
 Terminus Assembly: Stainless Steel/Passivate  
 Retention Clip: Spring Alloy  
 Spring: Stainless Steel/Passivate  
 Seal: Elastomeric Rubber  
 Crimp Sleeve: Brass Alloy/Nickel

**Accessories**

See Glenair GAP-044 for termination assembly instructions and appropriate tools.  
 Crimp sleeve is supplied with terminus assembly and may be ordered separately (see Table II).  
 For terminus less crimp sleeve, omit C from part number (e.g. **181-043-126**)

**SERIES 80**

# MIGHTY MOUSE

- ◆ **Up To 71% Weight Savings and 52% Size Savings Compared to MIL-DTL-38999**
- ◆ **The World's Best Availability—Thousands of Part Numbers In Stock and Ready for Immediate Same-Day Shipment**



Series 801  
Mighty Mouse  
7 Contacts



MIL-DTL-38999  
6 Contacts



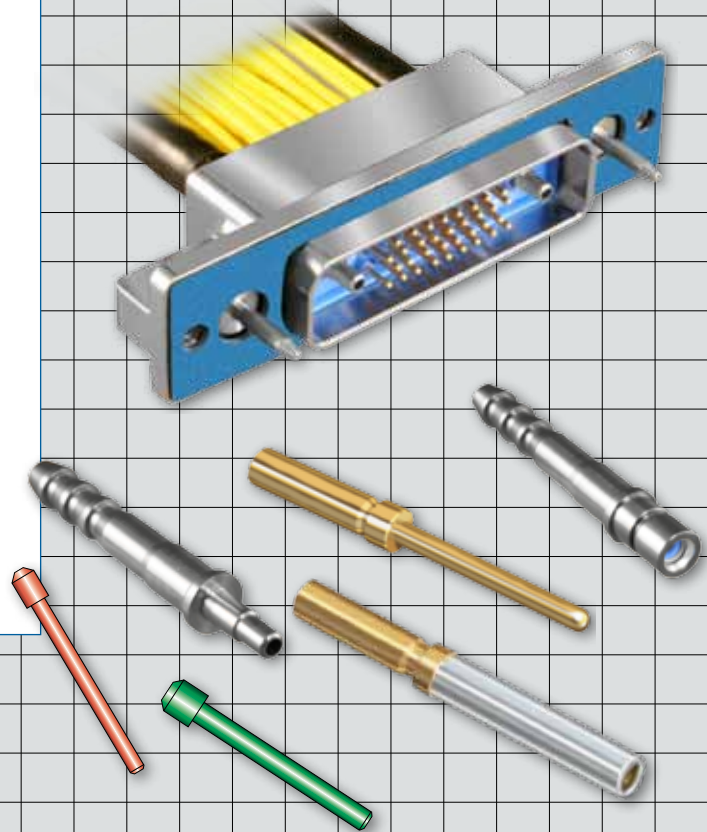
# Special Purpose

## High Performance Contacts: Thermocouple, Pneumatic, PC Tail, High Power, Solder Cup and More

### *A Solution for Every Challenge*

Glenair produces a wide range of special purpose contacts including high power and high ampacity contacts, pneumatic contacts, PC Tail contacts for board terminations and thermocouple contacts for use in temperature measuring applications. We also produce all the small accessory items, such as sealing plugs, that make us a convenient one-stop-shopping destination for users of high-performance Mil-Spec and commercial connectors and contacts.

We invite our customers to take advantage of the breadth and depth of our contact product line, especially its high-availability and our willingness to engineer unique and special-purpose contact solutions for virtually any interconnect challenge.



D

- ◆ SAE-AS39029 QPL'd and Commercial Contacts
- ◆ Same Day Inventory on Popular and Hard-to-Find Styles
- ◆ Highest Quality Materials Including Enhanced Durability Plating
- ◆ Unique and Hard-to-Find Contacts



## Special Purpose Contacts Selection Guide

| Glenair Part Number | Part Description  | Contact Size | Type          | Product Page |
|---------------------|---|--------------|---------------|--------------|
| 859-012             | Grommet Sealing Plugs (MS27488 Type)                    | 0-23         | Sealing Plug  | D-3          |
| 809-001             | Series 80 Mighty Mouse Pin Contact                      | 23           | Crimp Contact | D-4          |
| 809-002             | Series 80 Mighty Mouse Socket Contact                   | 23           | Crimp Contact | D-5          |
| 857-010             | Pneumatic Socket Contact for Series 79                  | 12           | Pneumatic     | D-6          |
| 857-011             | Pneumatic Pin Contact for Series 79                     | 12           | Pneumatic     | D-7          |
| 850-010             | PCB Pin Contact to fit D38999/20 and /24                | 12-22        | PCB Pin       | D-8          |
| 850-011             | PCB Socket Contact to fit D38999/20 and /24             | 12-22        | PCB Socket    | D-9          |
| 850-013             | High Power Socket Contact                               | 8            | Power Socket  | D-10         |
| 850-014             | High Power Pin Contact                                  | 8            | Power Pin     | D-11         |
| 850-015             | M39029/56 Type Socket Contact with Solder Cup           | 10-22        | Solder Cup    | D-12         |
| 850-016             | Pin Contact with Solder Cup                             | 10-22        | Solder Cup    | D-14         |
| 850-017             | M39029/58 Type Pin Contact with Solder Cup              | 12-22        | Solder Cup    | D-16         |
| 850-018             | M39029/56-348 Type Socket Contact                       | 22           | Crimp Contact | D-18         |
| 850-019             | M39029/58-360 Type Pin Contact                          | 22           | Crimp Contact | D-19         |
| 850-020             | M39029/57 Type Socket Contact                           | 22           | Crimp Contact | D-20         |
| 857-027             | M39029/58 Type High Power Pin with PC Tails             | 8            | PCB Power     | D-21         |
| 857-028             | M39029/56 Type High Power Socket with PC Tails          | 8            | PCB Power     | D-22         |
| 687-348             | Wire to Contact Crimp Adapter                           | 4-22         | Crimp Adapter | D-23         |
| 850-023             | M39029/87 Thermocouple Pin Contact                      | 16-22        | Thermocouple  | D-24         |
| 850-024             | M39029/88 Thermocouple Socket Contact; Series I, II, IV | 16-22        | Thermocouple  | D-26         |
| 850-025             | M39029/89 Thermocouple Socket Contact; Series II        | 16-22        | Thermocouple  | D-28         |



# Grommet Sealing Plugs

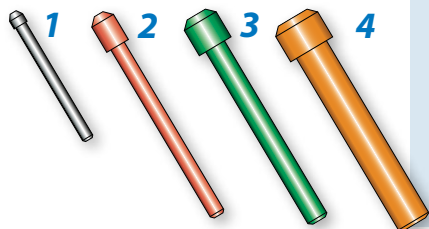
## MS27488 Type

### Size 0 Through 23



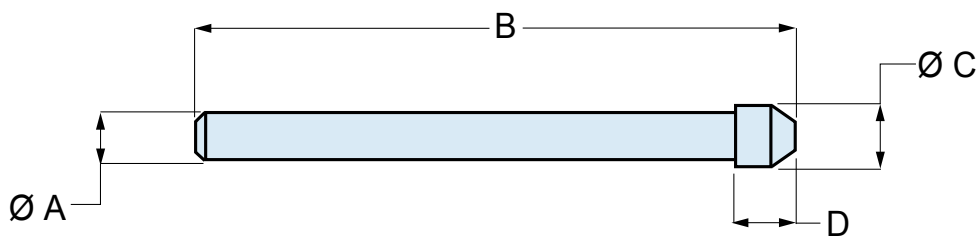
Special Purpose

## Grommet Sealing Plugs



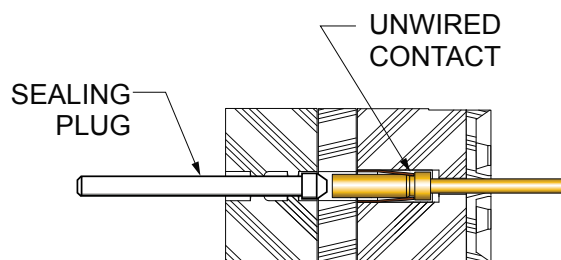
Grommet sealing plugs are used to seal unwired contact cavities. The size #23 sealing plug is specially designed to fit Glenair Series 80 Mighty Mouse grommets. Sizes 20 through 0 plugs conform to MS27488 requirements. After installing unwired contacts into unused cavities, insert knob end of sealing plug into grommet until it bottoms against the unwired contact per illustration. Install sealing plugs with standard contact insertion/extraction tools. Size #23 plug is polyphenylsulfone, other sizes are per MS27488 requirements.

| Fig. | Size | Color  | Part Number    | Military Part Number | Insertion/Extraction Tool | A Ref. |       | B Ref. |      | C Ref. |       | D Ref. |      |
|------|------|--------|----------------|----------------------|---------------------------|--------|-------|--------|------|--------|-------|--------|------|
|      |      |        |                |                      |                           | in.    | mm.   | in.    | mm.  | in.    | mm.   | in.    | mm.  |
| 1    | #23  | Black  | <b>809-155</b> | (None)               | M81969/14-01              | .040   | 1.02  | .51    | 13.0 | .052   | 1.32  | .050   | 1.27 |
| 2    | #20  | Red    | <b>859-012</b> | MS27488-20-2         | M81969/14-11              | .053   | 1.35  | .81    | 20.8 | .085   | 2.16  | .125   | 3.18 |
| 3    | #16  | Green  | <b>859-013</b> | MS27488-16-2         | M81969/14-03              | .074   | 1.88  | .87    | 22.1 | .125   | 3.18  | .125   | 3.18 |
| 4    | #12  | Orange | <b>859-014</b> | MS27488-12-2         | M81969/14-04              | .120   | 3.05  | .84    | 21.3 | .165   | 4.19  | .125   | 3.18 |
| N/A  | #8   | Red    |                | MS27488-8-3          | Not Recommended           | .170   | 4.32  | 1.19   | 30.2 | .310   | 7.87  | .125   | 3.18 |
| N/A  | #4   | Blue   |                | MS27488-4-3          | Not Recommended           | .278   | 7.06  | 1.19   | 30.2 | .409   | 10.39 | .125   | 3.18 |
| N/A  | #0   | Yellow |                | MS27488-0-3          | Not Recommended           | .423   | 10.74 | 1.07   | 27.2 | .601   | 15.27 | .125   | 3.18 |



### Installation of Sealing Plugs

"When installing sealing plug in connector cavities without contacts, the end opposite the knob shall be inserted first and the knob shall be seated against the grommet face. When installing into cavities with contacts, the sealing plugs shall be installed knob end first and shall bottom on the contact wire barrel."  
(NAVAIR 01-1A-505-1 Installation manual)





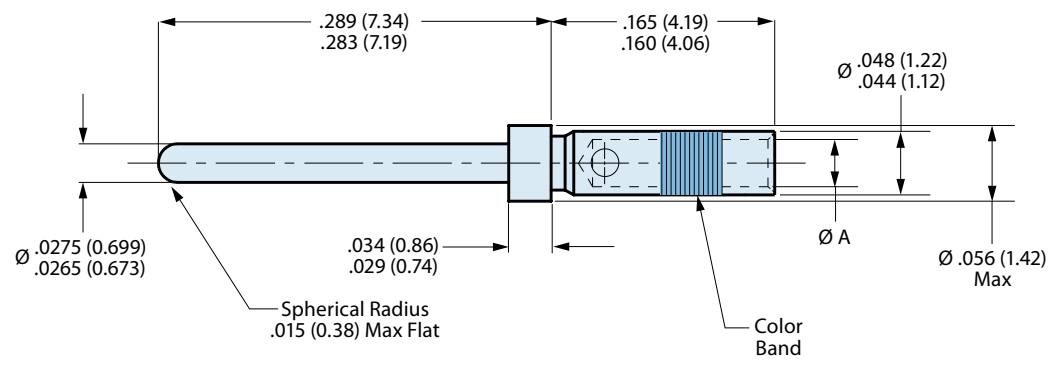
**809-001**  
**#23 Electrical Pin Contact**  
 For Series 79 Micro-Crimp and Series 80 Mighty Mouse

**Size #23 Crimp Pin Contact for Micro-Crimp and Mighty Mouse Connectors**



| Contact Type | Wire Size | Material | Part Number     | Ø A         |             | Color Band |
|--------------|-----------|----------|-----------------|-------------|-------------|------------|
|              |           |          |                 | In.         | mm.         |            |
| Pin          | #22 – #28 | BeCu     | <b>809-001</b>  | .0335-.0355 | 0.851-0.902 | None       |
| Pin          | #26 – #30 | BeCu     | <b>809-042</b>  | .0229-.0245 | 0.582-0.622 | Blue       |
| Pin          | #22 – #28 | Alumel   | <b>809-065A</b> | .0335-.0355 | 0.851-0.902 | None       |
| Pin          | #22 – #28 | Chromel  | <b>809-065C</b> | .0335-.0355 | 0.851-0.902 | None       |

Standard size #23 contacts accept #22 to #28 AWG wire. Choose "small bore" versions for #26 to #30 AWG wire. For thermocouple applications, specify alumel or chromel contacts. Contacts are bulk packaged. Terminate with standard M22520 crimper with special positioner.



D

| CRIMP TENSILE STRENGTH                 |                                  |                           |
|--|----------------------------------|---------------------------|
| Values are in pounds and are minimums. |                                  |                           |
| Wire Gage                              | Silver or Tin Coated Copper Wire | Nickel Coated Copper Wire |
| #22                                    | 12                               | 8                         |
| #24                                    | 8                                | 6                         |
| #26                                    | 5                                | 3                         |
| #28                                    | 3                                | 2                         |
| #30                                    | 1.5                              | 1.5                       |

**Material and Finish**  
 Beryllium copper alloy per ASTM B196 or B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches. Thermocouple contacts: alumel or chromel alloy, unplated, per ANSI 96.1. Socket contact hood: stainless steel, passivated per AMS-QQ-P-35.

**Specifications**  
 Current Rating: 5 Amps maximum  
 Voltage Drop (at 5 Amps and 25° C): 70 millivolts maximum  
 Temperature Range: -65° to + 200° C  
 Socket Contact Minimum Separation Force: 0.5 ounces

**Crimp Tools and Insertion/Extraction Tools**  
 Crimper: 809-015 or AFM8  
 Positioner: 809-005 (std). Use P/N 809-057 for small bore contacts 809-065 and 809-066  
 Standard Insertion/Extraction Tool: 809-088

809-002

#23 Electrical Socket Contact

For Series 79 Micro-Crimp and Series 80 Mighty Mouse



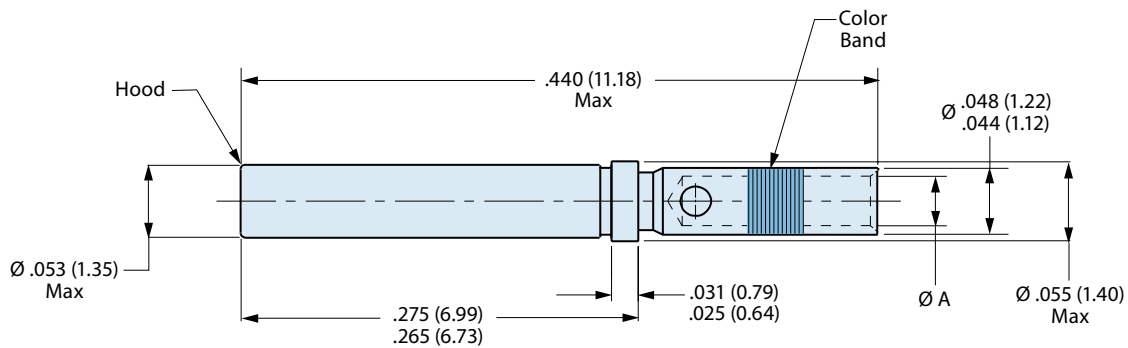
Special Purpose

Size #23 Crimp Socket Contact for Micro-Crimp and Mighty Mouse Connectors



| Contact Type | Wire Size | Material | Part Number | Ø A         |             | Color Band |
|--------------|-----------|----------|-------------|-------------|-------------|------------|
|              |           |          |             | In.         | mm.         |            |
| Socket       | #22 – #28 | BeCu     | 809-002     | .0335-.0355 | 0.851-0.902 | None       |
| Socket       | #26 – #30 | BeCu     | 809-043     | .0229-.0245 | 0.582-0.622 | Blue       |
| Socket       | #22 – #28 | Alumel   | 809-066A    | .0335-.0355 | 0.851-0.902 | None       |
| Socket       | #22 – #28 | Chromel  | 809-066C    | .0335-.0355 | 0.851-0.902 | None       |

Standard size #23 contacts accept #22 to #28 AWG wire. Choose "small bore" versions for #26 to #30 AWG wire. For thermocouple applications, specify alumel or chromel contacts. Contacts are bulk packaged. Terminate with standard M22520 crimper with special positioner.



D

CRIMP TENSILE STRENGTH

Values are in pounds and are minimums.

| Wire Gage | Silver or Tin Coated Copper Wire | Nickel Coated Copper Wire |
|-----------|----------------------------------|---------------------------|
| #22       | 12                               | 8                         |
| #24       | 8                                | 6                         |
| #26       | 5                                | 3                         |
| #28       | 3                                | 2                         |
| #30       | 1.5                              | 1.5                       |

Material and Finish

Beryllium copper alloy per ASTM B196 or B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches. Thermocouple contacts: alumel or chromel alloy, unplated, per ANSI 96.1 Socket contact hood: stainless steel, passivated per AMS-QQ-P-35.

Specifications

Current Rating: 5 Amps maximum  
 Voltage Drop (at 5 Amps and 25° C): 70 millivolts maximum  
 Temperature Range: -65° to + 200° C  
 Socket Contact Minimum Separation Force: 0.5 ounces

Crimp Tools and Insertion/Extraction Tools

Crimper: 809-015 or AFM8  
 Positioner: 809-005 (std). Use P/N 809-057 for small bore contacts 809-065 and 809-066  
 Standard Insertion/Extraction Tool: 809-088

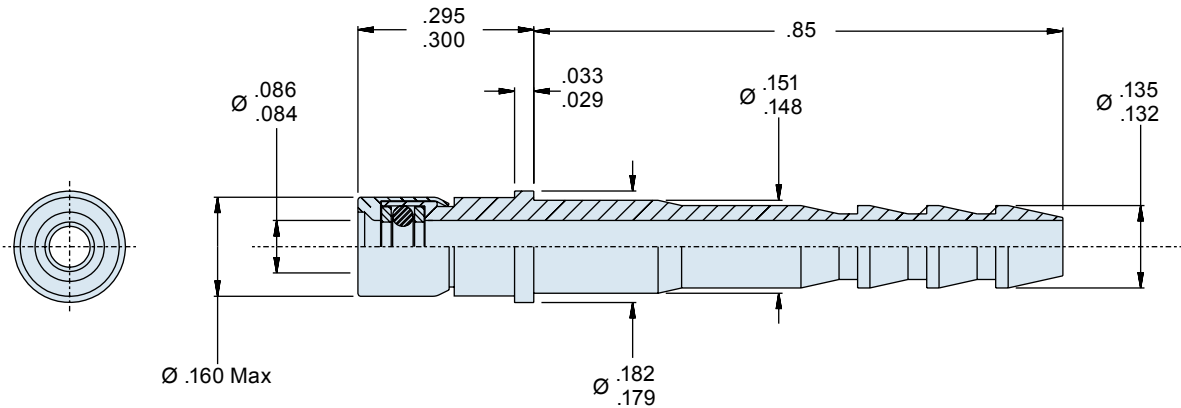


**857-010**  
**Size #12 Pneumatic Socket Contact**

**Size #12 Pneumatic Contacts**



| Contact Type | Tube I.D.   | Part Number    |
|--------------|-------------|----------------|
| Socket       | .094 (2.38) | <b>857-010</b> |



D

Stainless steel pneumatic contacts attach to 3/32 inch (2.38) diameter tubing. Socket contact has o-ring and PTFE backup washers. Contacts snap into size #12 connector cavities. These pneumatic contacts are rated for 200 PSI maximum air pressure. No installation tool is required. Remove contacts with plastic extraction tool 809-132.

**Material and Finish**  
 Body and Cap: stainless steel, passivated  
 O-ring: fluorosilicone  
 Washers: PTFE

**Specifications**  
 Contact may be used for air pressures up to 200±10% PSIG  
 Fits #12 socket contact cavities in Series 79 connectors

**Notes**  
 High pressure pneumatic contacts available. Consult factory for more information.

**857-011**  
**Size #12 Pneumatic Pin Contact**

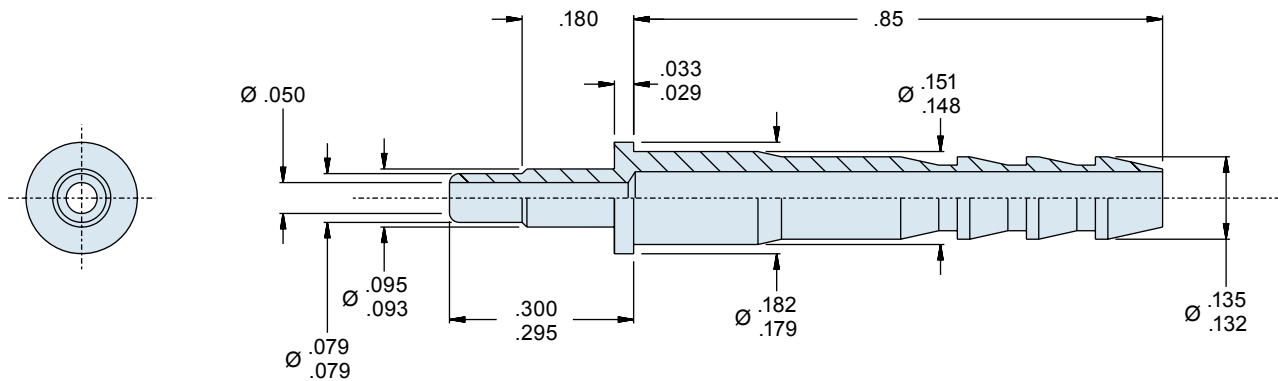


Special  
Purpose

**Size #12 Pneumatic Contacts**



| Contact Type | Tube I.D.   | Part Number    |
|--------------|-------------|----------------|
| Pin          | .094 (2.38) | <b>857-011</b> |



Stainless steel pneumatic contacts attach to 3/32 inch (2.38) diameter tubing. Contacts snap into size #12 connector cavities. These pneumatic contacts are rated for 200 PSI maximum air pressure. No installation tool is required. Remove contacts with plastic extraction tool 809-132.

**Material and Finish**

Body and Cap: stainless steel, passivated  
 O-ring: fluorosilicone  
 Washers: PTFE

**Specifications**

Contact may be used for air pressures up to 200±10% PSIG  
 Fits #12 socket contact cavities in Series 79 connectors

**Notes**

High pressure pneumatic contacts available. Consult factory for more information.



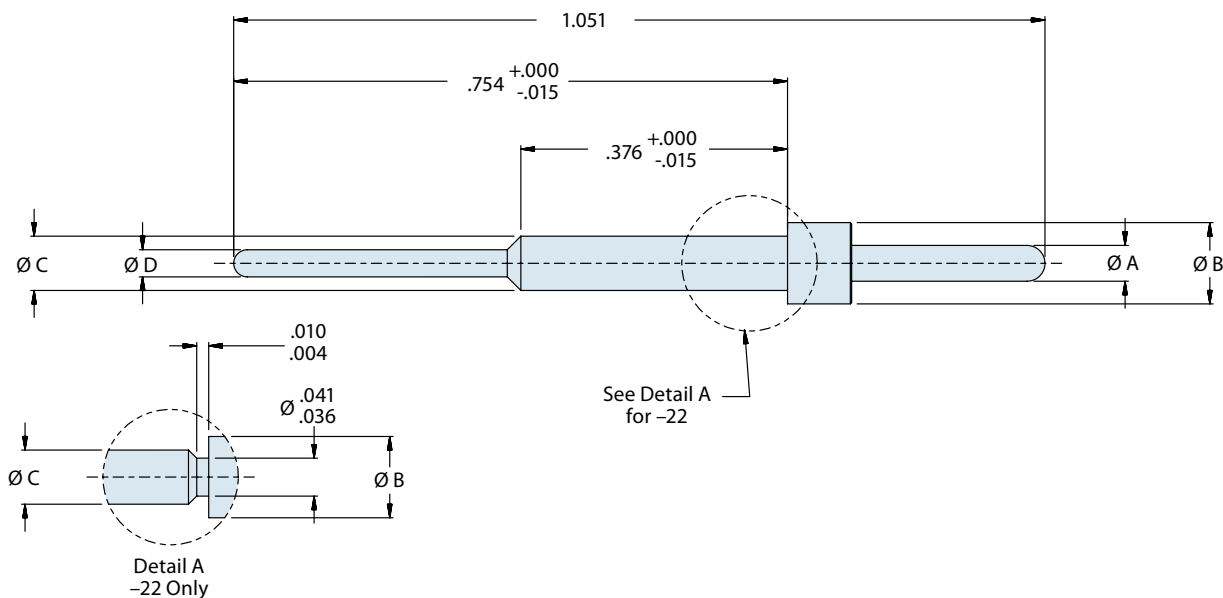
**PCB Pin Contact to Fit MIL-DTL-38999/20 and /24 Connectors**



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | <b>850-010-22</b>   |
| 20              | <b>850-010-20</b>   |
| 16              | <b>850-010-16</b>   |
| 12              | <b>850-010-12</b>   |

| TABLE I |       |      |      |       |
|---------|-------|------|------|-------|
| Size    | Ø A   | Ø B  | Ø C  | Ø D   |
| 22      | .0305 | .062 | .046 | .020  |
|         | .0295 | .060 | .044 | .018  |
| 20      | .041  | .094 | .070 | .028  |
|         | .039  | .091 | .068 | .024  |
| 16      | .0635 | .130 | .101 | .0635 |
|         | .0615 | .127 | .097 | .0615 |
| 12      | .095  | .182 | .134 | .095  |
|         | .093  | .179 | .130 | .093  |

**D**



**Material and Finish**

Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 micro inches nickel IAW SAE AMS-QQ-N-290, class II

**850-011**  
**M39029/56 Type**  
**PCB Socket Contact for D38999/20 and /24**



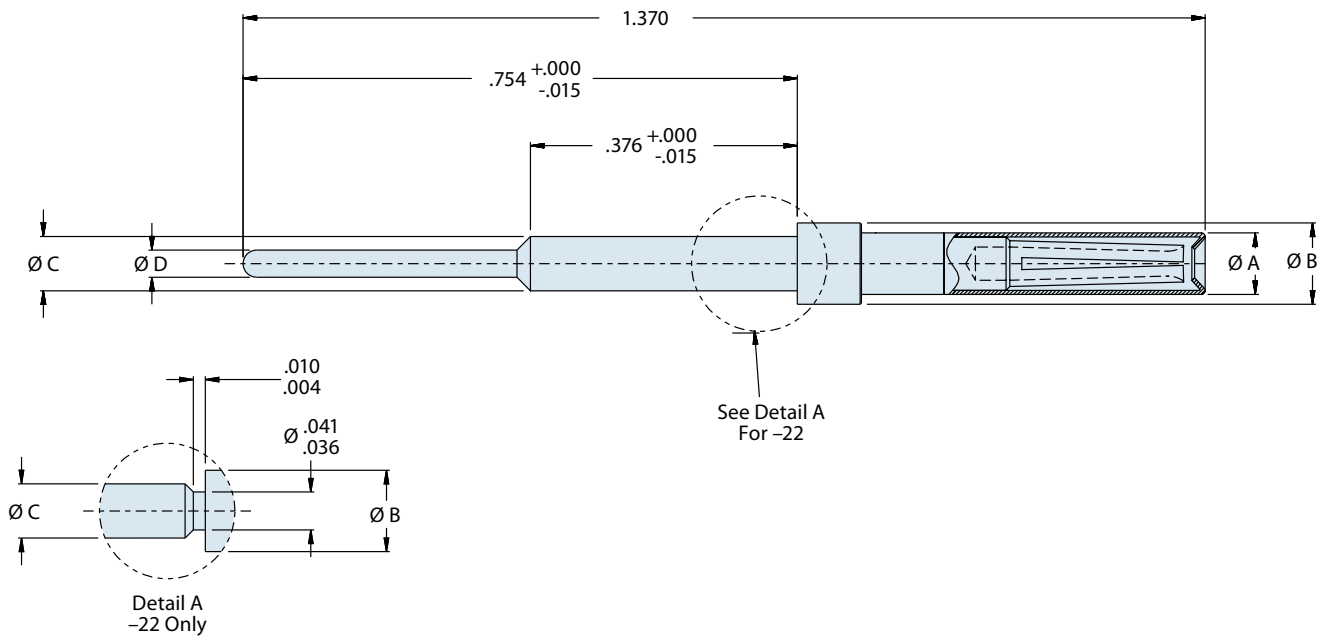
Special Purpose

**PCB Socket Contact to Fit MIL-DTL-38999/20 and /24 Connectors**



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | <b>850-011-22</b>   |
| 20              | <b>850-011-20</b>   |
| 16              | <b>850-011-16</b>   |
| 12              | <b>850-011-12</b>   |

| TABLE I |         |              |              |                |
|---------|---------|--------------|--------------|----------------|
| Size    | Ø A Max | Ø B          | Ø C          | Ø D            |
| 22      | .062    | .062<br>.060 | .046<br>.044 | .020<br>.018   |
| 20      | .078    | .094<br>.091 | .070<br>.068 | .028<br>.024   |
| 16      | .113    | .130<br>.127 | .101<br>.097 | .0635<br>.0615 |
| 12      | .161    | .182<br>.179 | .134<br>.130 | .095<br>.093   |



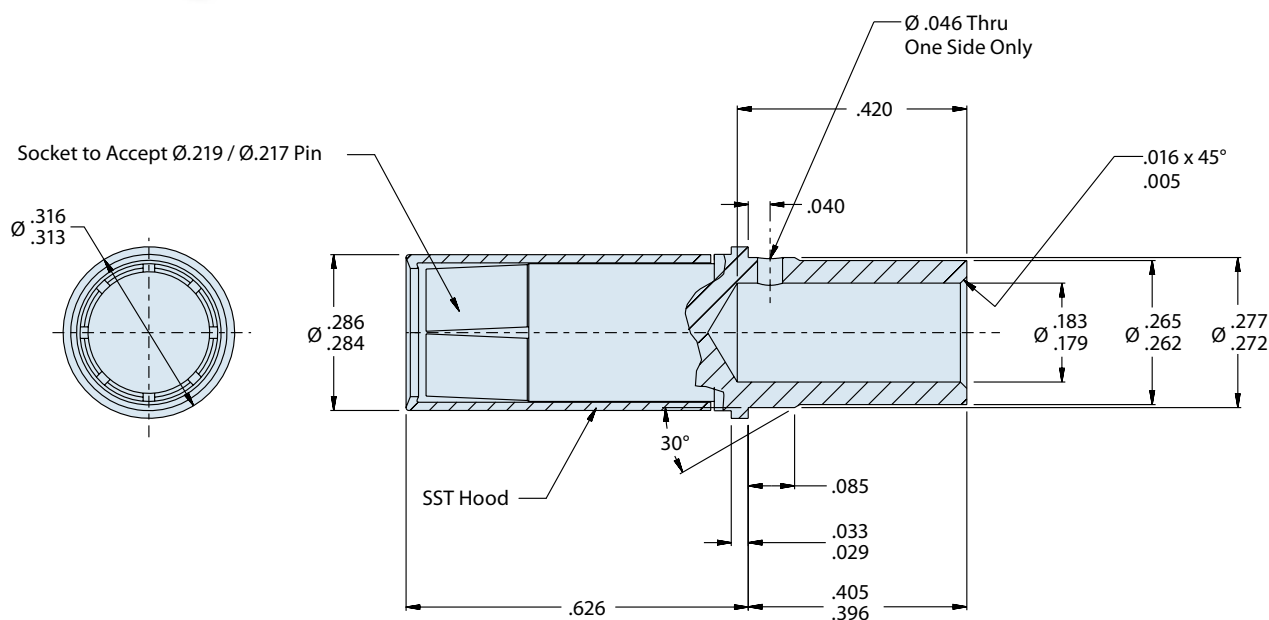
**Material and Finish**

Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II

**#8 High Power Socket Contact**



| Mating End Size | Wire Accommodation | Glenair Part Number |
|-----------------|--------------------|---------------------|
| 8               | 8 AWG              | 850-013             |



D

**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II  
 Hood: CRES, passivated

**Crimp Tools and Insertion/Extraction Tools**

From Pico Corporation  
 Crimp Tool: 500-D-1  
 Crimp Die: 514DA-8N  
 Consult factory for cable accommodation and respective tool compatibility.

**Notes**

For use with Glenair 257-722 series power connectors.



**850-014**  
**Size 8 Pin Contact**  
**High Power**

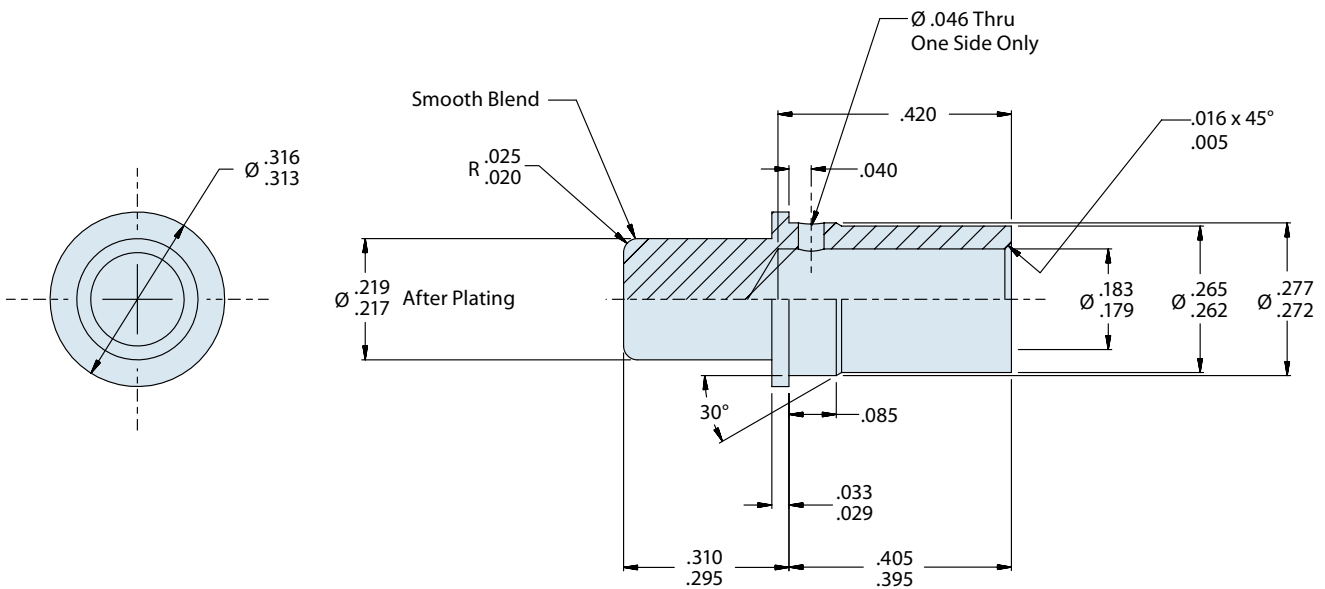


Special Purpose

**#8 High Power Pin Contact**



| Mating End Size | Wire Accommodations | Glenair Part Number |
|-----------------|---------------------|---------------------|
| 8               | 8 AWG               | 850-014             |



**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II

**Crimp Tools and Insertion/Extraction Tools**

From Pico Corporation  
 Crimp Tool: 500-D-1  
 Crimp Die: 514DA-8N  
 Consult factory for cable accommodation and respective tool compatibility.

**Notes**

For use with Glenair 257-722 series power connectors.

D

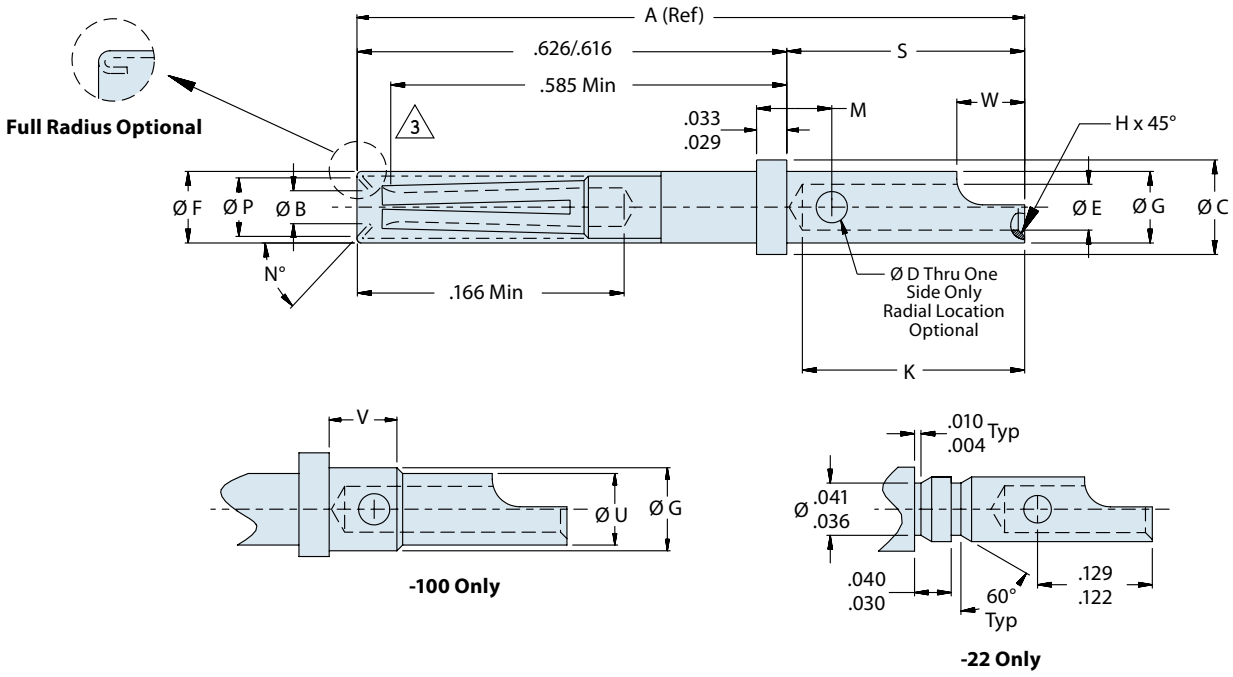


Socket Contact with Solder Cup For D38999 Series I, III and IV Connectors



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | 850-015-22          |
| 20              | 850-015-20          |
| 16              | 850-015-16          |
| 12              | 850-015-12          |
| 10              | 850-015-10          |

D



**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II  
Hood: 305 CRES, passivated

**850-015**  
**M39029/56 Type**  
**Socket Contact With Solder Cup**



Special  
Purpose

**TABLE I: CONNECTOR DIMENSIONS**

| Size | Part Number | A Ref | Ø B Min | Ø C          | Ø D          | Ø E          | Ø F Max | Ø G          | Ø H          |
|------|-------------|-------|---------|--------------|--------------|--------------|---------|--------------|--------------|
| 22   | 850-015-22  | .855  | .031    | .062<br>.060 | .022<br>.018 | .036<br>.034 | .062    | .048<br>.046 | .005<br>.003 |
| 20   | 850-015-20  | .855  | .0415   | .094<br>.091 | .032<br>.026 | .048<br>.042 | .078    | .070<br>.068 | .010<br>.005 |
| 16   | 850-015-16  | .855  | .064    | .130<br>.127 | .042<br>.036 | .080<br>.070 | .113    | .103<br>.101 | .010<br>.005 |
| 12   | 850-015-12  | .855  | .0955   | .182<br>.179 | .042<br>.036 | .120<br>.112 | .161    | .151<br>.148 | .016<br>.005 |
| 10   | 850-015-10  | 1.021 | .1265   | .242<br>.238 | .052<br>.046 | .146<br>.138 | .215    | .213<br>.207 | .016<br>.005 |

**TABLE I: (Continued) CONNECTOR DIMENSIONS**

| Size | Part Number | K            | M            | N°          | Ø P Min | S            | Ø U          | V            | W            |
|------|-------------|--------------|--------------|-------------|---------|--------------|--------------|--------------|--------------|
| 22   | 850-015-22  | .160<br>.130 | —            | 50°<br>44°  | .047    | .237<br>.231 | —            | —            | .080<br>.050 |
| 20   | 850-015-20  | .230<br>.200 | .078<br>.072 | 47°<br>40°  | .053    | .237<br>.231 | —            | —            | .105<br>.075 |
| 16   | 850-015-16  | .230<br>.200 | .088<br>.082 | 47°<br>40°  | .084    | .237<br>.231 | —            | —            | .105<br>.075 |
| 12   | 850-015-12  | .230<br>.200 | .088<br>.082 | 47°<br>40°  | .118    | .237<br>.231 | —            | —            | .115<br>.085 |
| 10   | 850-015-10  | .385<br>.355 | .115<br>.108 | Full Radius | .146    | .405<br>.395 | .183<br>.177 | .121<br>.111 | .140<br>.110 |

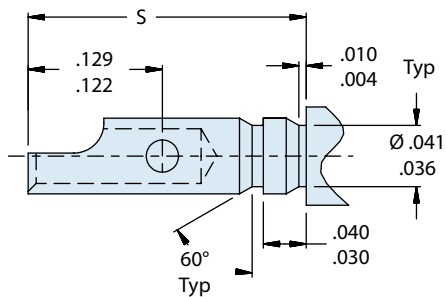
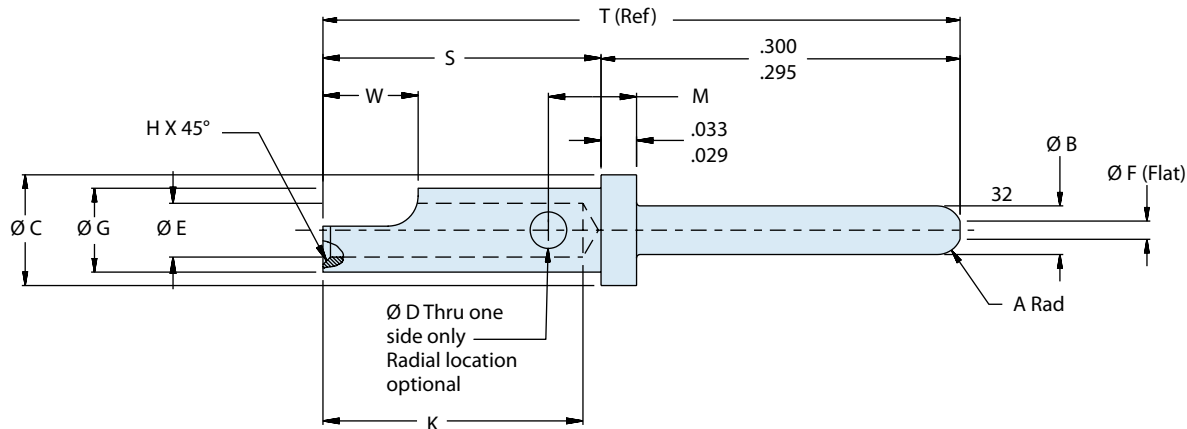
D



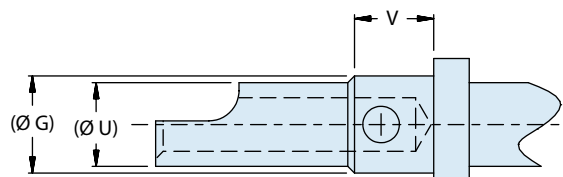
**Pin Contact with Solder Cup for D38999 Series I, III and IV Connectors**



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | 850-016-22          |
| 20              | 850-016-20          |
| 16              | 850-016-16          |
| 12              | 850-016-12          |
| 10              | 850-016-10          |



**-22 ONLY**



**-10 ONLY**

**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50-100 microinches nickel IAW SAE AMS-QQ-N-290, class II

**850-016**  
**M39029/58 Type**  
**Pin Contact With Solder Cup**



Special  
Purpose

**TABLE I: CONNECTOR DIMENSIONS**

| Size | Part Number | A<br>Rad     | Ø B            | Ø C          | Ø D          | Ø E          | Ø F          | Ø G          | H            |
|------|-------------|--------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 22   | 850-016-22  | .020<br>.010 | .0305<br>.0295 | .062<br>.060 | .022<br>.018 | .036<br>.034 | .011<br>max  | .048<br>.046 | .005<br>.003 |
| 20   | 850-016-20  | .025<br>.020 | .041<br>.039   | .094<br>.091 | .032<br>.026 | .048<br>.042 | .015<br>max  | .070<br>.068 | .010<br>.005 |
| 16   | 850-016-16  | .025<br>.020 | .0635<br>.0616 | .130<br>.127 | .042<br>.036 | .080<br>.070 | .030<br>.011 | .103<br>.101 | .010<br>.005 |
| 12   | 850-016-12  | .025<br>.020 | .095<br>.093   | .182<br>.179 | .042<br>.036 | .120<br>.112 | .062<br>.043 | .151<br>.148 | .016<br>.005 |
| 10   | 850-016-10  | .025<br>.020 | .126<br>.124   | .242<br>.238 | .052<br>.046 | .146<br>.138 | .094<br>.074 | .213<br>.207 | .016<br>.005 |

**TABLE I: (Continued) CONNECTOR DIMENSIONS**

| Size | Part Number | K            | M            | S            | T<br>(Ref) | Ø U          | V            | W            |
|------|-------------|--------------|--------------|--------------|------------|--------------|--------------|--------------|
| 22   | 850-016-22  | .160<br>.130 | —            | .237<br>.231 | .531       | —            | —            | .080<br>.050 |
| 20   | 850-016-20  | .230<br>.200 | .078<br>.072 | .237<br>.231 | .531       | —            | —            | .105<br>.075 |
| 16   | 850-016-16  | .230<br>.200 | .088<br>.082 | .237<br>.231 | .531       | —            | —            | .105<br>.075 |
| 12   | 850-016-12  | .230<br>.200 | .088<br>.082 | .237<br>.231 | .531       | —            | —            | .115<br>.085 |
| 10   | 850-016-10  | .385<br>.355 | .115<br>.108 | .405<br>.395 | .698       | .183<br>.177 | .121<br>.111 | .140<br>.110 |

D

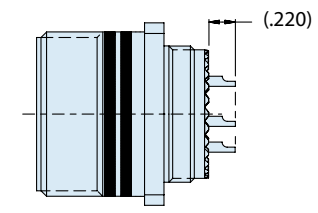
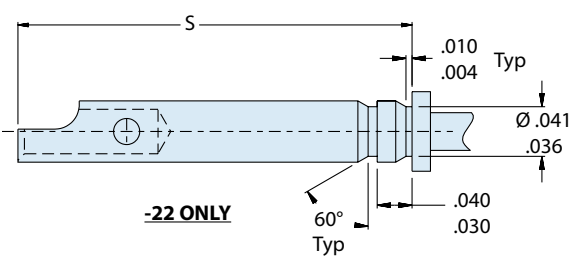
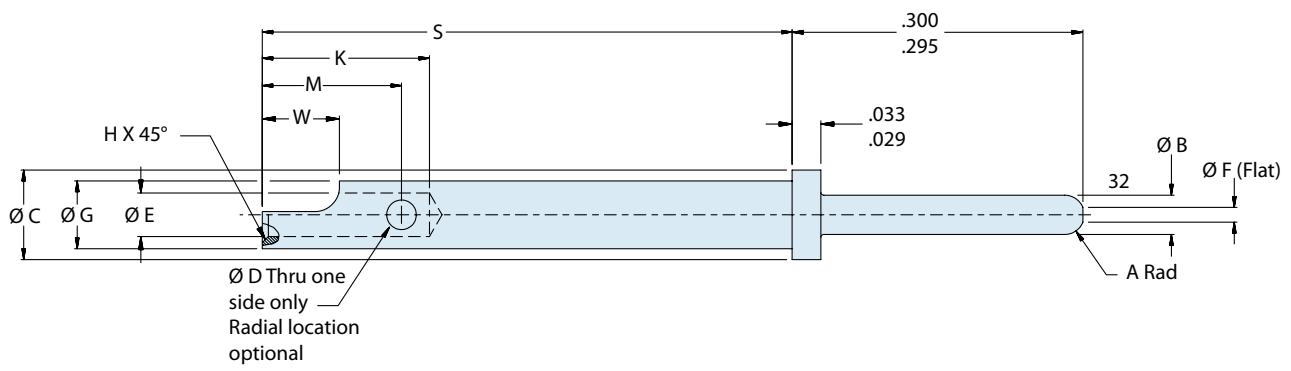


**Pin Contact with Extended Rear Solder Cup**



| Mating End Size | Military Part Number | Glenair Part Number |
|-----------------|----------------------|---------------------|
| 22              | N/A                  | 850-017-22          |
| 20              | N/A                  | 850-017-20          |
| 16              | N/A                  | 850-017-16          |
| 12              | N/A                  | 850-017-12          |

D



Ref. Solder cup length connector shown for ref only

**850-017**  
**M39029/58 Type**  
**Pin Contact With Extended Rear Solder Cup**



Special  
Purpose

**TABLE I: CONNECTOR DIMENSIONS**

| Size | Part Number | A<br>Rad     | Ø B            | Ø C          | Ø D          | Ø E          | Ø F          | Ø G          | H            | K            | M    | S    | W            |
|------|-------------|--------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------|------|--------------|
| 22   | 850-017-22  | .020<br>.010 | .0305<br>.0295 | .062<br>.060 | .022<br>.018 | .036<br>.034 | .011<br>max  | .048<br>.046 | .005<br>.003 | .160<br>.130 | .125 | .780 | .080<br>.050 |
| 20   | 850-017-20  | .025<br>.020 | .041<br>.039   | .094<br>.091 | .032<br>.026 | .048<br>.042 | .015<br>max  | .070<br>.068 | .010<br>.005 | .230<br>.200 | .185 | .780 | .105<br>.075 |
| 16   | 850-017-16  | .025<br>.020 | .0635<br>.0616 | .130<br>.127 | .042<br>.036 | .080<br>.070 | .030<br>.011 | .103<br>.101 | .010<br>.005 | .230<br>.200 | .180 | .780 | .105<br>.075 |
| 12   | 850-017-12  | .025<br>.020 | .095<br>.093   | .182<br>.179 | .042<br>.036 | .120<br>.112 | .062<br>.043 | .151<br>.148 | .016<br>.005 | .230<br>.200 | .180 | .780 | .115<br>.085 |

D

**Material and Finish**

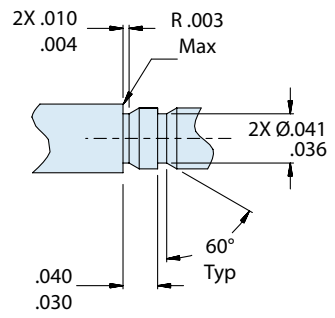
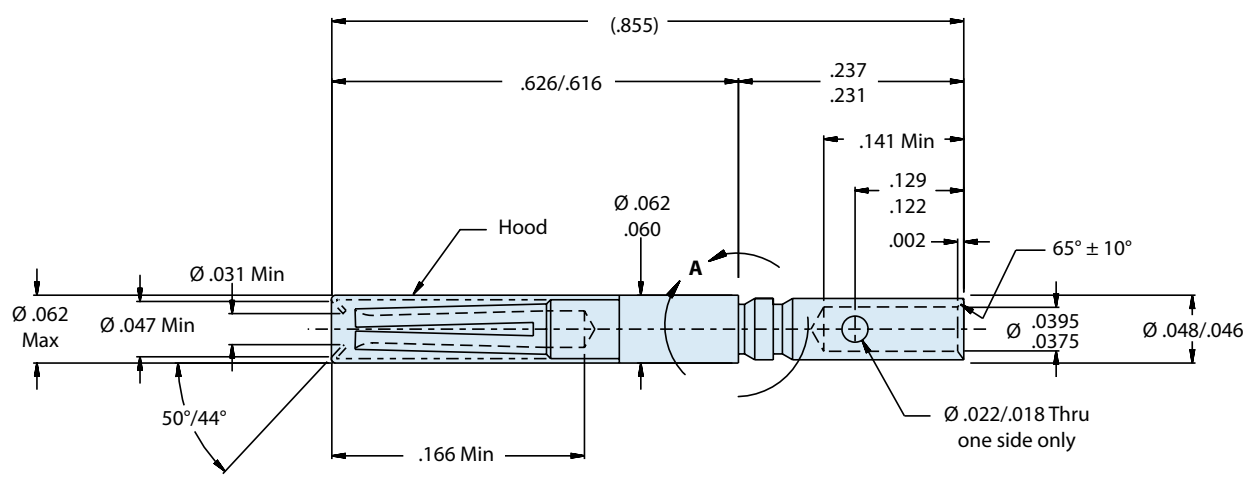
Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II



**850-018-22**  
**M39029/56-348 Type**  
**Size 22 Socket Contact with Expanded Wire Accommodation**



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | <b>850-018-22</b>   |



**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II  
 Hood: 305 CRES, passivated

**Notes**

May be used with up to 20AWG wire

D



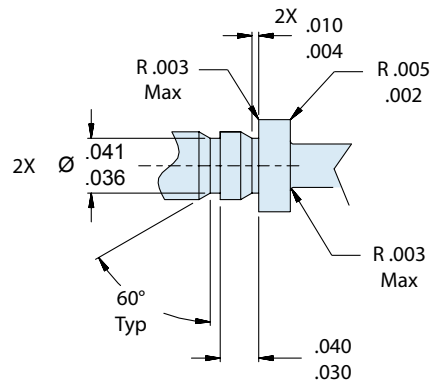
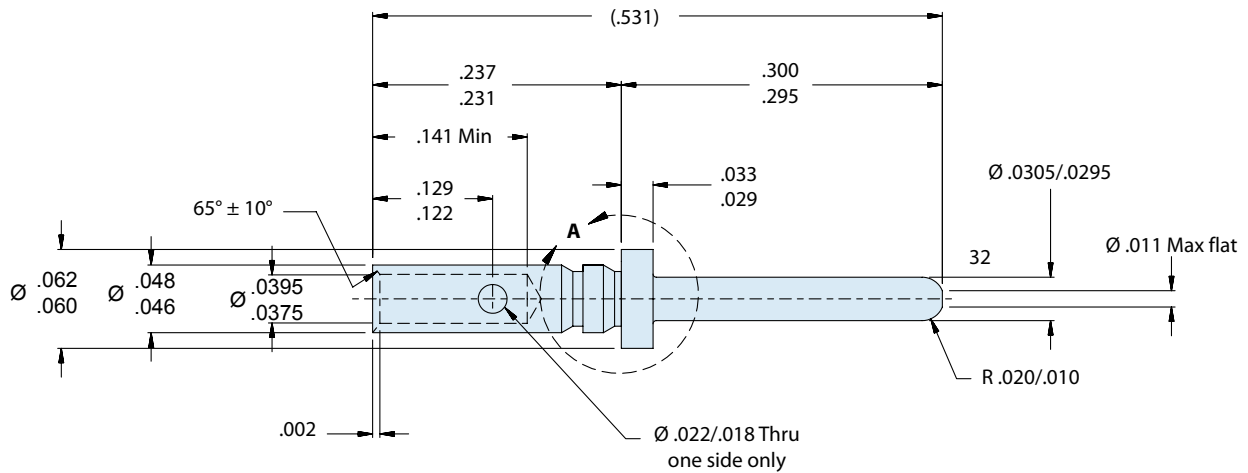
**850-019-22**  
**M39029/58-360 Type**  
**Size 22 Pin Contact with Expanded Wire Accommodation**



Special Purpose



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | 850-019-22          |



**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50-100 microinches nickel IAW SAE AMS-QQ-N-290, class II

**Notes**

May be used with up to 20AWG wire

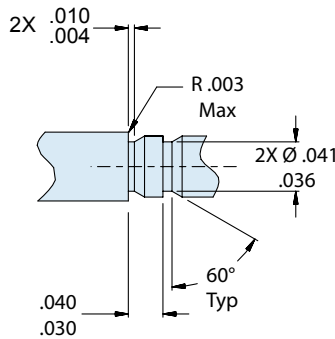
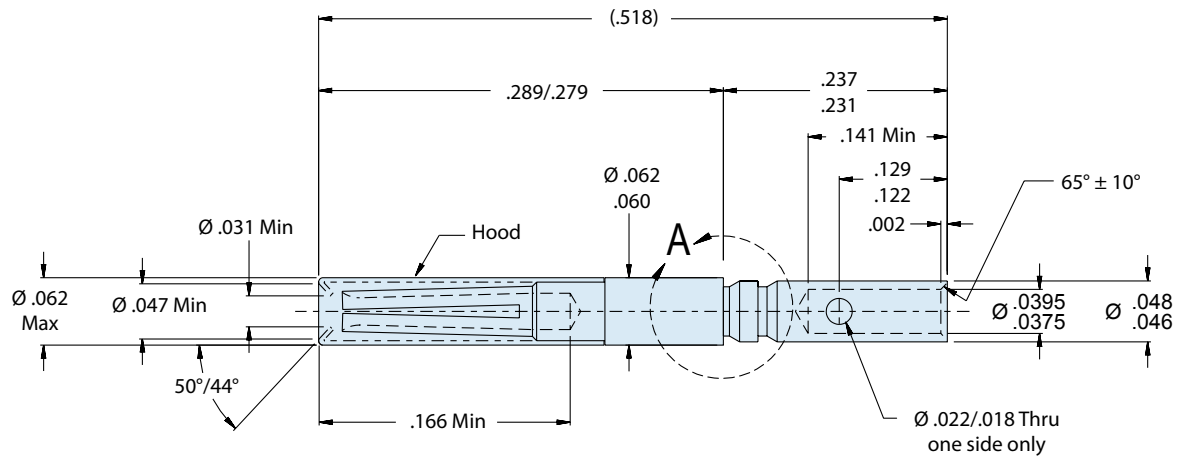
D



**850-020-22**  
**M39029/57 Type**  
**Socket Contact with Expanded Wire Accommodation**



| Mating End Size | Glenair Part Number |
|-----------------|---------------------|
| 22              | <b>850-020-22</b>   |



**DETAIL A**

**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290, class II  
 Hood: 305 CRES, passivated

**Notes**

May be used with up to 20AWG wire

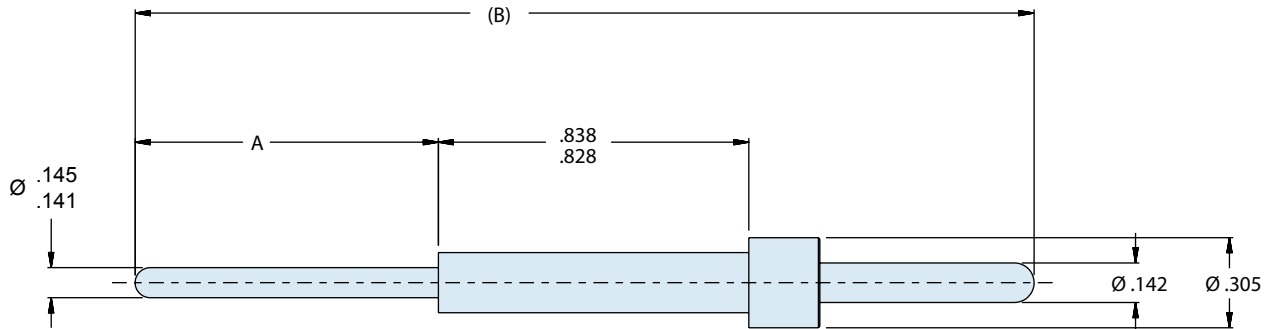
**857-027**  
**M39029/58 Type**  
**8 Gauge Pin Contact with PC Tails**



Special Purpose



| Mating End Size | PC Tail Length (A Dim.) | Overall Length (B Ref) | Glenair Part Number |
|-----------------|-------------------------|------------------------|---------------------|
|                 | .150 (3.8)              | 1.400 (35.6)           | <b>857-027-08-1</b> |
| 8               | .225 (5.7)              | 1.475 (37.5)           | <b>857-027-08-2</b> |
|                 | .325 (8.3)              | 1.575 (40.0)           | <b>857-027-08-3</b> |



D

**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290

**Notes**

This contact is designed IAW M39029/58 and is for use in special MIL-DTL-38999 Series III rear release contact retention systems using 8 gauge power contacts.

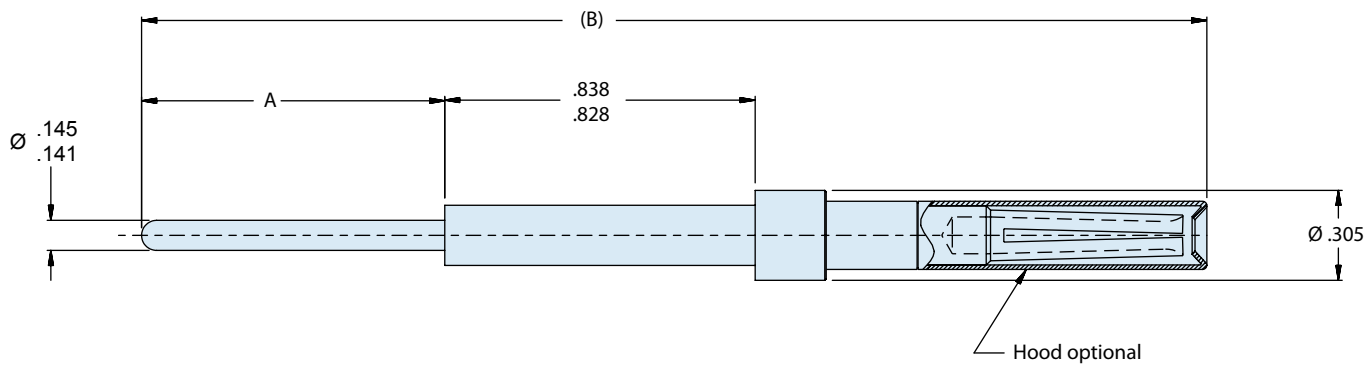
Shoulder on PC tail to protrude .030 (nominally) past the grommet seal or end of connector (jam nut type).



**857-028**  
**M39029/56 Type**  
**8 Gauge Socket Contact with PC Tails**



| Mating End Size | PC Tail Length (A Dim.) | Overall Length (B Ref) | Glenair Part Number |
|-----------------|-------------------------|------------------------|---------------------|
|                 | .150 (3.8)              | 1.773 (45.0)           | <b>857-028-08-1</b> |
| 8               | .225 (5.7)              | 1.848 (46.9)           | <b>857-028-08-2</b> |
|                 | .325 (8.3)              | 1.948 (49.5)           | <b>857-028-08-3</b> |



D

**Material and Finish**

Contact Body: Copper alloy, plated with 50 microinches gold per ASTM B488 Type II code C over 50–100 microinches nickel IAW SAE AMS-QQ-N-290

**Notes**

This contact is designed IAW M39029/56 and is for use in special MIL-DTL-38999 Series III rear release contact retention systems using 8 gauge power contacts. Shoulder on PC tail to protrude .030 (nominally) past the grommet seal or end of connector (jam nut type).

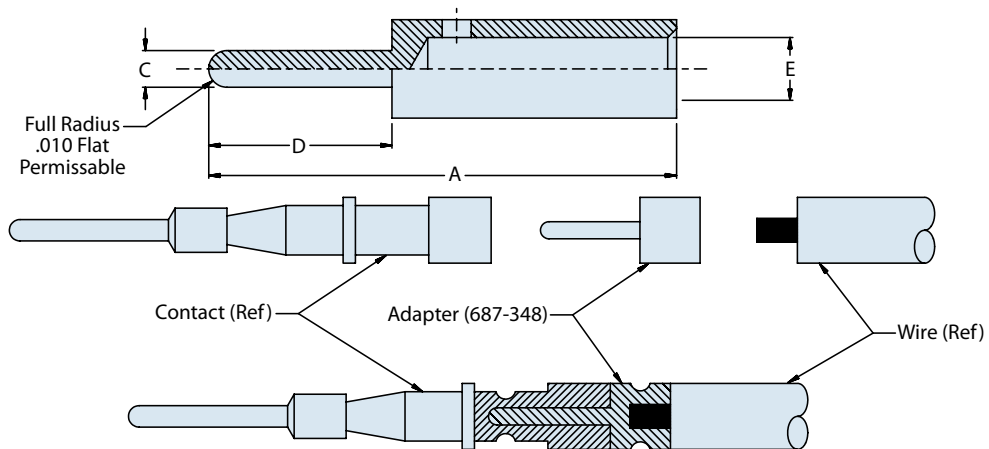
# 687-348 Wire to Contact Adapter



Special Purpose



|  |  |   |
|--|--|---|
| 687-348 - Basic Part Number                            | <b>Wire Accommodation</b>  |   |
|  | 6 - 6-8 AWG<br>10 - 8-10 AWG<br>12 - 12-14 AWG<br>16 - 16-18 AWG | 20 - 20-22 AWG<br>22 - 22-24 AWG<br>0 - 0-4 AWG |
| 687-348  | Z2   | 20  |
| <b>Available Finishes</b>                              |  | <b>Contact Wire Barrel Size</b>                 |
| Z2 - Gold Plate<br>Z3 - Silver Plate<br>Z4 - Tin Plate |  | 4, 8, 12, 16, 20, 22                            |



### Material and Finish

Contact Body: Tellurium copper alloy with gold, silver or tin plate (see part number development)

### Notes

Wire must be crimped or soldered to adapter prior to crimping or soldering electrical contact to adapter. For dimensional data, please consult factory.

**Outside diameter may exceed contact crimp-pot diameter, and is therefore not recommended for use in rear release contact style connectors.**

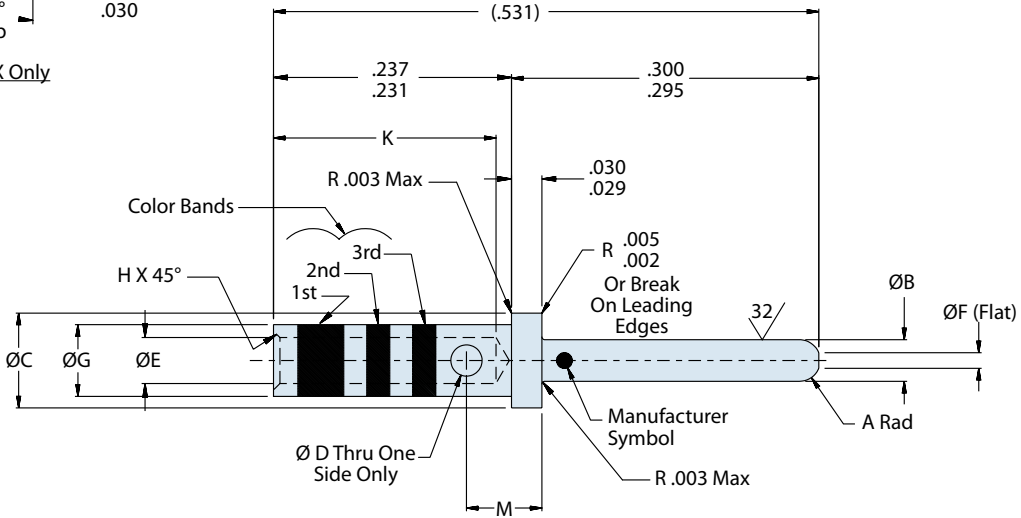
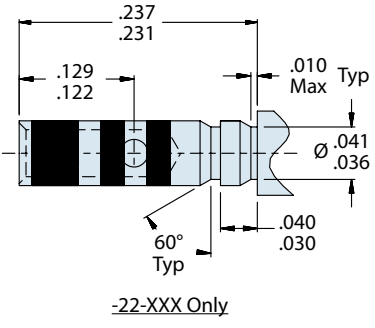




**Thermocouple Pin Contact to Fit D38999 Series I, II, III and IV Connectors**



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 22              | 22-28 AWG         | M39029/87-470        | 850-023-22-470      |
| 22              | 22-28 AWG         | M39029/87-471        | 850-023-22-471      |
| 22              | 22-28 AWG         | M39029/87-472        | 850-023-22-472      |
| 22              | 22-28 AWG         | M39029/87-473        | 850-023-22-473      |
| 20              | 20-24 AWG         | M39029/87-474        | 850-023-20-474      |
| 20              | 20-24 AWG         | M39029/87-475        | 850-023-20-475      |
| 20              | 20-24 AWG         | M39029/87-476        | 850-023-20-476      |
| 20              | 20-24 AWG         | M39029/87-477        | 850-023-20-477      |
| 16              | 16-20 AWG         | M39029/87-478        | 850-023-16-478      |
| 16              | 16-20 AWG         | M39029/87-479        | 850-023-16-479      |
| 16              | 16-20 AWG         | M39029/87-480        | 850-023-16-480      |
| 16              | 16-20 AWG         | M39029/87-481        | 850-023-16-481      |



850-023  
AS39029/87 Type  
Thermocouple Pin Contact



Special Purpose

TABLE I: CONTACT DIMENSIONS

| Size | Glenair Part Number | Military Number | A (rad)      | ø B Min.       | ø C          | ø D          | ø E            | ø F          | ø G          | H            |
|------|---------------------|-----------------|--------------|----------------|--------------|--------------|----------------|--------------|--------------|--------------|
| 22   | 850-023-22-470      | M39029/87-470   | .020<br>.010 | .0305<br>.0295 | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .011<br>max  | .048<br>.046 | .005<br>.003 |
|      | 850-023-22-471      | M39029/87-471   |              |                |              |              |                |              |              |              |
|      | 850-023-22-472      | M39029/87-472   |              |                |              |              |                |              |              |              |
|      | 850-023-22-473      | M39029/87-473   |              |                |              |              |                |              |              |              |
| 20   | 850-023-20-474      | M39029/87-474   | .025<br>.015 | .041<br>.039   | .094<br>.091 | .032<br>.026 | .048<br>.046   | .015<br>max  | .070<br>.068 | .010<br>.005 |
|      | 850-023-20-475      | M39029/87-475   |              |                |              |              |                |              |              |              |
|      | 850-023-20-476      | M39029/87-476   |              |                |              |              |                |              |              |              |
|      | 850-023-20-477      | M39029/87-477   |              |                |              |              |                |              |              |              |
| 16   | 850-023-16-478      | M39029/87-478   | .025<br>.020 | .0635<br>.0616 | .130<br>.127 | .042<br>.036 | .068<br>.066   | .030<br>.011 | .103<br>.101 | .010<br>.005 |
|      | 850-023-16-479      | M39029/87-479   |              |                |              |              |                |              |              |              |
|      | 850-023-16-480      | M39029/87-480   |              |                |              |              |                |              |              |              |
|      | 850-023-16-481      | M39029/87-481   |              |                |              |              |                |              |              |              |

TABLE I (Continued): CONTACT DIMENSIONS

| Size | Glenair Part Number | Military Number | K            | M            | Color Bands |        |        | Material   | Plating        |
|------|---------------------|-----------------|--------------|--------------|-------------|--------|--------|------------|----------------|
|      |                     |                 |              |              | 1st         | 2nd    | 3rd    |            |                |
| 22   | 850-023-22-470      | M39029/87-470   | .157<br>.141 | -            | Yellow      | Violet | Black  | Constantan | None           |
|      | 850-023-22-471      | M39029/87-471   |              |              | Yellow      | Violet | Brown  | Alumel     | None           |
|      | 850-023-22-472      | M39029/87-472   |              |              | Yellow      | Violet | Red    | Chromel    | None           |
|      | 850-023-22-473      | M39029/87-473   |              |              | Yellow      | Violet | Orange | Iron       | Cadmium Plate* |
| 20   | 850-023-20-474      | M39029/87-474   | .229<br>.209 | .078<br>.072 | Yellow      | Violet | Yellow | Constantan | None           |
|      | 850-023-20-475      | M39029/87-475   |              |              | Yellow      | Violet | Green  | Alumel     | None           |
|      | 850-023-20-476      | M39029/87-476   |              |              | Yellow      | Violet | Blue   | Chromel    | None           |
|      | 850-023-20-477      | M39029/87-477   |              |              | Yellow      | Violet | Violet | Iron       | Cadmium Plate* |
| 16   | 850-023-16-478      | M39029/87-478   | .229<br>.209 | .088<br>.082 | Yellow      | Violet | Gray   | Constantan | None           |
|      | 850-023-16-479      | M39029/87-479   |              |              | Yellow      | Violet | White  | Alumel     | None           |
|      | 850-023-16-480      | M39029/87-480   |              |              | Yellow      | Gray   | Black  | Chromel    | None           |
|      | 850-023-16-481      | M39029/87-481   |              |              | Yellow      | Gray   | Brown  | Iron       | Cadmium Plate* |

\*Chromate Clear Coat.

TABLE II: TOOL COMPATIBILITY

| Size | Glenair Part Number | Military Number | AWG Handling | Crimp Tool                                | Positioner   | Insertion Tool              | Extraction Tool             |
|------|---------------------|-----------------|--------------|---|--|-----------------------------|-----------------------------|
| 22   | 850-023-22-470      | M39029/87-470   | 22, 24, 26   | M22520/2-01<br>M22520/7-01                | M22520/2-09<br>M22520/7-07                         | M81969/14-01<br>M81969/8-01 | M81969/14-01<br>M81969/8-02 |
|      | 850-023-22-471      | M39029/87-471   |              |   |  |                             |                             |
|      | 850-023-22-472      | M39029/87-472   |              |   |  |                             |                             |
|      | 850-023-22-473      | M39029/87-473   |              |   |  |                             |                             |
| 20   | 850-023-20-474      | M39029/87-474   | 20, 22, 24   | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02 | M81969/8-06<br>M81969/14-02 |
|      | 850-023-20-475      | M39029/87-475   |              |   |  |                             |                             |
|      | 850-023-20-476      | M39029/87-476   |              |   |  |                             |                             |
|      | 850-023-20-477      | M39029/87-477   |              |   |  |                             |                             |
| 16   | 850-023-16-478      | M39029/87-478   | 16, 18, 20   | M22520/1-01<br>M22520/7-01                | M22520/1-04<br>(Blue)<br>M22520/7-04               | M81969/8-07<br>M81969/14-03 | M81969/8-08<br>M81969/14-03 |
|      | 850-023-16-479      | M39029/87-479   |              |   |  |                             |                             |
|      | 850-023-16-480      | M39029/87-480   |              |   |  |                             |                             |
|      | 850-023-16-481      | M39029/87-481   |              |   |  |                             |                             |



850-024  
AS39029/88 Type  
Thermocouple Socket Contact

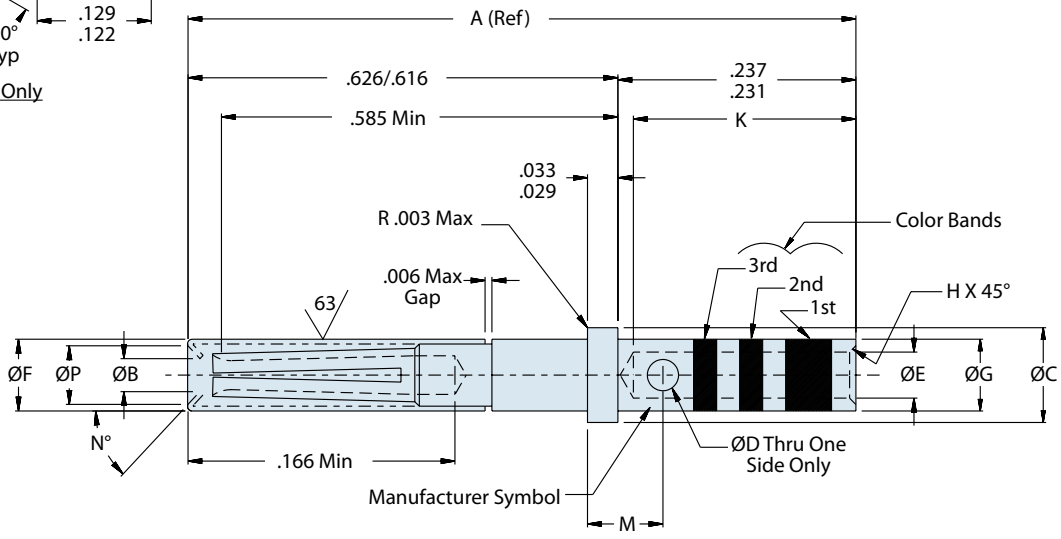
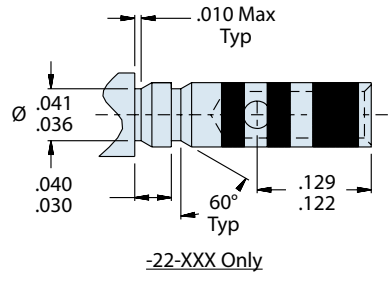
D38999  
Ser. I, III, IV

Thermocouple Socket Contact to Fit D38999 Series I, III and IV Connectors



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 22              | 22-28 AWG         | M39029/88-482        | 850-024-22-482      |
| 22              | 22-28 AWG         | M39029/88-483        | 850-024-22-483      |
| 22              | 22-28 AWG         | M39029/88-484        | 850-024-22-484      |
| 22              | 22-28 AWG         | M39029/88-485        | 850-024-22-485      |
| 20              | 20-24 AWG         | M39029/88-486        | 850-024-20-486      |
| 20              | 20-24 AWG         | M39029/88-487        | 850-024-20-487      |
| 20              | 20-24 AWG         | M39029/88-488        | 850-024-20-488      |
| 20              | 20-24 AWG         | M39029/88-489        | 850-024-20-489      |
| 16              | 16-20 AWG         | M39029/88-490        | 850-024-16-490      |
| 16              | 16-20 AWG         | M39029/88-491        | 850-024-16-491      |
| 16              | 16-20 AWG         | M39029/88-492        | 850-024-16-492      |
| 16              | 16-20 AWG         | M39029/88-493        | 850-024-16-493      |

D





850-024  
AS39029/88 Type  
Thermocouple Socket Contact



Special Purpose

TABLE I: CONTACT DIMENSIONS

| Size | Military Number | Glenair Part Number | A (ref) | ø B          | ø C          | ø D          | ø E            | ø F Max | ø G          | ø H          |
|------|-----------------|---------------------|---------|--------------|--------------|--------------|----------------|---------|--------------|--------------|
| 22   | M39029/88-482   | 850-024-22-482      | .855    | .031<br>Min  | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .062    | .048<br>.046 | .005<br>.003 |
|      | M39029/88-483   | 850-024-22-483      |         |              |              |              |                |         |              |              |
|      | M39029/88-484   | 850-024-22-484      |         |              |              |              |                |         |              |              |
|      | M39029/88-485   | 850-024-22-485      |         |              |              |              |                |         |              |              |
| 20   | M39029/88-486   | 850-024-20-486      | .855    | .044<br>.042 | .094<br>.091 | .032<br>.026 | .048<br>.046   | .078    | .070<br>.068 | .010<br>.005 |
|      | M39029/88-487   | 850-024-20-487      |         |              |              |              |                |         |              |              |
|      | M39029/88-488   | 850-024-20-488      |         |              |              |              |                |         |              |              |
|      | M39029/88-489   | 850-024-20-489      |         |              |              |              |                |         |              |              |
| 16   | M39029/88-490   | 850-024-16-490      | .855    | .064<br>Min  | .130<br>.127 | .042<br>.036 | .068<br>.066   | .113    | .103<br>.101 | .010<br>.005 |
|      | M39029/88-491   | 850-024-16-491      |         |              |              |              |                |         |              |              |
|      | M39029/88-492   | 850-024-16-492      |         |              |              |              |                |         |              |              |
|      | M39029/88-493   | 850-024-16-493      |         |              |              |              |                |         |              |              |

TABLE I (Continued): CONTACT DIMENSIONS

| Size | Military Number | Glenair Part Number | K            | M            | Color Bands |       |        | Material   | Plating        |
|------|-----------------|---------------------|--------------|--------------|-------------|-------|--------|------------|----------------|
|      |                 |                     |              |              | 1st         | 2nd   | 3rd    |            |                |
| 22   | M39029/88-482   | 850-024-22-482      | .141<br>Min  | -            | Yellow      | Gray  | Red    | Constantan | None           |
|      | M39029/88-483   | 850-024-22-483      |              |              | Yellow      | Gray  | Orange | Alumel     | None           |
|      | M39029/88-484   | 850-024-22-484      |              |              | Yellow      | Gray  | Yellow | Chromel    | None           |
|      | M39029/88-485   | 850-024-22-485      |              |              | Yellow      | Gray  | Green  | Iron       | Cadmium Plate* |
| 20   | M39029/88-486   | 850-024-20-486      | .229<br>.209 | .078<br>.072 | Yellow      | Gray  | Blue   | Constantan | None           |
|      | M39029/88-487   | 850-024-20-487      |              |              | Yellow      | Gray  | Violet | Alumel     | None           |
|      | M39029/88-488   | 850-024-20-488      |              |              | Yellow      | Gray  | Gray   | Chromel    | None           |
|      | M39029/88-489   | 850-024-20-489      |              |              | Yellow      | Gray  | White  | Iron       | Cadmium Plate* |
| 16   | M39029/88-490   | 850-024-16-490      | .229<br>.209 | .088<br>.082 | Yellow      | White | Black  | Constantan | None           |
|      | M39029/88-491   | 850-024-16-491      |              |              | Yellow      | White | Brown  | Alumel     | None           |
|      | M39029/88-492   | 850-024-16-492      |              |              | Yellow      | White | Red    | Chromel    | None           |
|      | M39029/88-493   | 850-024-16-493      |              |              | Yellow      | White | Orange | Iron       | Cadmium Plate* |

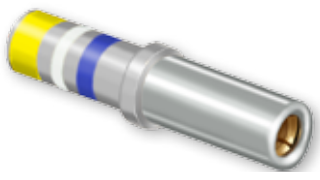
\*Chromate Clear Coat.

TABLE II: TOOL COMPATIBILITY

| Size | Military Number | Glenair Part Number | AWG Handling | Crimp Tool                                | Positioner   | Insertion Tool              | Extraction Tool             |
|------|-----------------|---------------------|--------------|---|--|-----------------------------|-----------------------------|
| 22   | M39029/88-482   | 850-024-22-482      | 22, 24, 26   | M22520/2-01<br>M22520/7-01                | M22520/2-07<br>M22520//7-05                        | M81969/14-01<br>M81969/8-01 | M81969/14-01<br>M81969/8-02 |
|      | M39029/88-483   | 850-024-22-483      |              |   |  |                             |                             |
|      | M39029/88-484   | 850-024-22-484      |              |   |  |                             |                             |
|      | M39029/88-485   | 850-024-22-485      |              |   |  |                             |                             |
| 20   | M39029/88-486   | 850-024-20-486      | 20, 22, 24   | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02 | M81969/8-06<br>M81969/14-02 |
|      | M39029/88-487   | 850-024-20-487      |              |   |  |                             |                             |
|      | M39029/88-488   | 850-024-20-488      |              |   |  |                             |                             |
|      | M39029/88-489   | 850-024-20-489      |              |   |  |                             |                             |
| 16   | M39029/88-490   | 850-024-16-490      | 16, 18, 20   | M22520/1-01<br>M22520/7-01                | M22520/1-04<br>(Blue)<br>M22520/7-04               | M81969/8-07<br>M81969/14-03 | M81969/8-08<br>M81969/14-03 |
|      | M39029/88-491   | 850-024-16-491      |              |   |  |                             |                             |
|      | M39029/88-492   | 850-024-16-492      |              |   |  |                             |                             |
|      | M39029/88-493   | 850-024-16-493      |              |   |  |                             |                             |

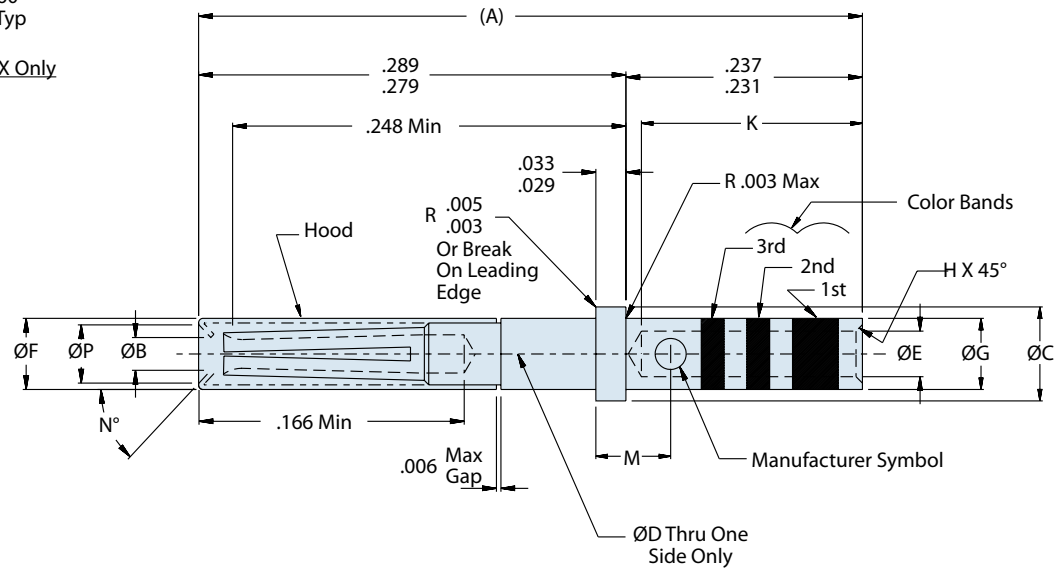
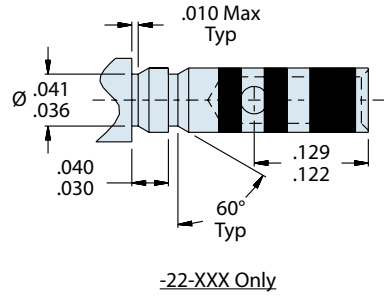


Thermocouple Socket Contact to Fit D38999 Series II Connectors



| Mating End Size | Wire Accomodation | Military Part Number | Glenair Part Number |
|-----------------|-------------------|----------------------|---------------------|
| 22              | 22-28 AWG         | M39029/89-494        | 850-025-22-494      |
| 22              | 22-28 AWG         | M39029/89-495        | 850-025-22-495      |
| 22              | 22-28 AWG         | M39029/89-496        | 850-025-22-496      |
| 22              | 22-28 AWG         | M39029/89-497        | 850-025-22-497      |
| 20              | 20-24 AWG         | M39029/89-498        | 850-025-20-498      |
| 20              | 20-24 AWG         | M39029/89-499        | 850-025-20-499      |
| 20              | 20-24 AWG         | M39029/89-500        | 850-025-20-500      |
| 20              | 20-24 AWG         | M39029/89-501        | 850-025-20-501      |
| 16              | 16-20 AWG         | M39029/89-502        | 850-025-16-502      |
| 16              | 16-20 AWG         | M39029/89-503        | 850-025-16-503      |
| 16              | 16-20 AWG         | M39029/89-504        | 850-025-16-504      |
| 16              | 16-20 AWG         | M39029/89-505        | 850-025-16-505      |

D



850-025  
AS39029/89 Type  
Thermocouple Socket Contact



Special Purpose

TABLE I: CONTACT DIMENSIONS

| Size | Military Number | Glenair Part Number | A (ref) | ø B Min | ø C          | ø D          | ø E            | ø F Max | ø G          | H            |
|------|-----------------|---------------------|---------|---------|--------------|--------------|----------------|---------|--------------|--------------|
| 22   | M39029/89-494   | 850-025-22-494      | .518    | .031    | .062<br>.060 | .022<br>.018 | .0355<br>.0335 | .062    | .048<br>.046 | .005<br>.003 |
|      | M39029/89-495   | 850-025-22-495      |         |         |              |              |                |         |              |              |
|      | M39029/89-496   | 850-025-22-496      |         |         |              |              |                |         |              |              |
|      | M39029/89-497   | 850-025-22-497      |         |         |              |              |                |         |              |              |
| 20   | M39029/89-498   | 850-025-20-498      | .518    | .0415   | .094<br>.091 | .032<br>.026 | .048<br>.046   | .078    | .070<br>.068 | .010<br>.005 |
|      | M39029/89-499   | 850-025-20-499      |         |         |              |              |                |         |              |              |
|      | M39029/89-500   | 850-025-20-500      |         |         |              |              |                |         |              |              |
|      | M39029/89-501   | 850-025-20-501      |         |         |              |              |                |         |              |              |
| 16   | M39029/89-502   | 850-025-16-502      | .518    | .064    | .130<br>.127 | .042<br>.036 | .068<br>.066   | .113    | .103<br>.101 | .010<br>.005 |
|      | M39029/89-503   | 850-025-16-503      |         |         |              |              |                |         |              |              |
|      | M39029/89-504   | 850-025-16-504      |         |         |              |              |                |         |              |              |
|      | M39029/89-505   | 850-025-16-505      |         |         |              |              |                |         |              |              |

TABLE I (Continued): CONTACT DIMENSIONS

| Size | Military Number | Glenair Part Number | K Min | M            | N°         | øP Min | Color Bands |       |        | Material   | Plating        |
|------|-----------------|---------------------|-------|--------------|------------|--------|-------------|-------|--------|------------|----------------|
|      |                 |                     |       |              |            |        | 1st         | 2nd   | 3rd    |            |                |
| 22   | M39029/89-494   | 850-025-22-494      | .141  | -            | 50°<br>44° | .047   | Yellow      | White | Yellow | Constantan | None           |
|      | M39029/89-495   | 850-025-22-495      |       |              |            |        | Yellow      | White | Green  | Alumel     | None           |
|      | M39029/89-496   | 850-025-22-496      |       |              |            |        | Yellow      | White | Blue   | Chromel    | None           |
|      | M39029/89-497   | 850-025-22-497      |       |              |            |        | Yellow      | White | Violet | Iron       | Cadmium Plate* |
| 20   | M39029/89-498   | 850-025-20-498      | .209  | .078<br>.072 | 47°<br>28° | .053   | Yellow      | White | Gray   | Constantan | None           |
|      | M39029/89-499   | 850-025-20-499      |       |              |            |        | Yellow      | White | White  | Alumel     | None           |
|      | M39029/89-500   | 850-025-20-500      |       |              |            |        | Green       | Black | Black  | Chromel    | None           |
|      | M39029/89-501   | 850-025-20-501      |       |              |            |        | Green       | Black | Brown  | Iron       | Cadmium Plate* |
| 16   | M39029/89-502   | 850-025-16-502      | .209  | .088<br>.082 | 47°<br>28° | .084   | Green       | Black | Red    | Constantan | None           |
|      | M39029/89-503   | 850-025-16-503      |       |              |            |        | Green       | Black | Orange | Alumel     | None           |
|      | M39029/89-504   | 850-025-16-504      |       |              |            |        | Green       | Black | Yellow | Chromel    | None           |
|      | M39029/89-505   | 850-025-16-505      |       |              |            |        | Green       | Black | Green  | Iron       | Cadmium Plate* |

\*Chromate Clear Coat.

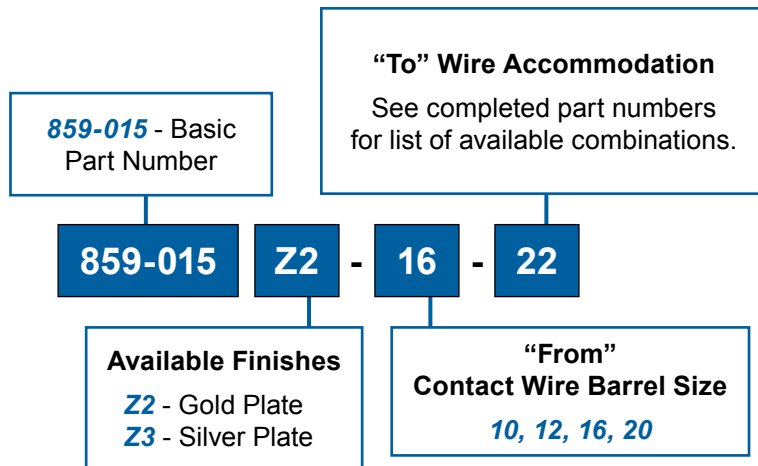
TABLE II: TOOL COMPATIBILITY

| Size | Military Number | Glenair Part Number | AWG Handling | Crimp Tool                                | Positioner   | Insertion Tool              | Extraction Tool             |
|------|-----------------|---------------------|--------------|---|--|-----------------------------|-----------------------------|
| 22   | M39029/89-494   | 850-025-22-494      | 22, 24, 26   | M22520/2-01<br>M22520/7-01                | M22520/2-06<br>M22520//7-06                        | M81969/14-01<br>M81969/8-01 | M81969/14-01<br>M81969/8-02 |
|      | M39029/89-495   | 850-025-22-495      |              |   |  |                             |                             |
|      | M39029/89-496   | 850-025-22-496      |              |   |  |                             |                             |
|      | M39029/89-497   | 850-025-22-497      |              |   |  |                             |                             |
| 20   | M39029/89-498   | 850-025-20-498      | 20, 22, 24   | M22520/7-01<br>M22520/2-01<br>M22520/1-01 | M22520/7-08<br>M22520/2-10<br>M22520/1-04<br>(Red) | M81969/8-05<br>M81969/14-02 | M81969/8-06<br>M81969/14-02 |
|      | M39029/89-499   | 850-025-20-499      |              |   |  |                             |                             |
|      | M39029/89-500   | 850-025-20-500      |              |   |  |                             |                             |
|      | M39029/89-501   | 850-025-20-501      |              |   |  |                             |                             |
| 16   | M39029/89-502   | 850-025-16-502      | 16, 18, 20   | M22520/1-01<br>M22520/7-01                | M22520/1-04<br>(Blue)<br>M22520/7-04               | M81969/8-07<br>M81969/14-03 | M81969/8-08<br>M81969/14-03 |
|      | M39029/89-503   | 850-025-16-503      |              |   |  |                             |                             |
|      | M39029/89-504   | 850-025-16-504      |              |   |  |                             |                             |
|      | M39029/89-505   | 850-025-16-505      |              |   |  |                             |                             |

D



**Wire Barrel Reducer Bushing**



**Material and Finish**

Copper alloy with gold or silver plate (see part number development)

**Notes**

Bushings are designed to reduce the barrel size of crimp contacts to accommodate smaller wire gages than specified in M39029.

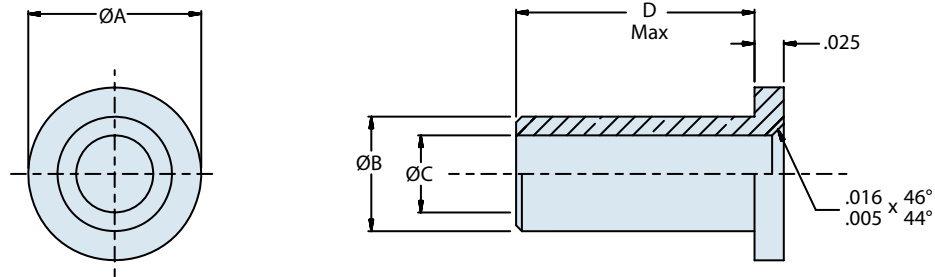
Bushing must be pressed into contact by hand before crimping.

For proper environmental sealing against the rear connector grommet, use of shrink sleeve or potting may be required.

**859-015**  
**Wire Barrel Reducer Bushing**  
**For Use with Crimp Contacts**



Special Purpose



| Part Number     | Ø A         | Ø B  | Ø C  | D Max |
|-----------------|-------------|------|------|-------|
| 859-015Z2-20-26 | .066        | .046 | .024 | .204  |
| 859-015Z2-20-28 | .066        | .046 | .019 | .204  |
| 859-015Z2-16-22 | .099        | .066 | .034 | .204  |
| 859-015Z2-16-24 | .099        | .066 | .029 | .204  |
| 859-015Z2-16-26 | .099        | .066 | .024 | .204  |
| 859-015Z2-16-28 | .099        | .066 | .019 | .204  |
| 859-015Z2-12-16 | .146        | .098 | .067 | .204  |
| 859-015Z2-12-18 | .146        | .098 | .056 | .204  |
| 859-015Z2-12-20 | .146        | .098 | .047 | .204  |
| 859-015Z2-12-22 | .146        | .098 | .034 | .204  |
| 859-015Z2-10-12 | .177 / .173 | .134 | .100 | .350  |
| 859-015Z2-10-16 | .177 / .173 | .134 | .067 | .350  |
| 859-015Z2-10-20 | .177 / .173 | .134 | .047 | .350  |

D

| Contact Size | Standard Wire Accomodation (AWG) Without Bushing |
|--------------|--|
| 10           | 10   |
| 12           | 12-14  |
| 16           | 16-20  |
| 20           | 20-24  |
| 22           | 22-28  |

**SERIES 77**

# FULL NELSON

## Heat Shrink Boots

*Outstanding Environmental and Mechanical Protection*

*“Think he’ll ever break that hold?  
Nope. He’s got him in a Full Nelson!”*



Nothing conjures up the image of an unbreakable hold like a Standing Full Nelson. Properly applied, this classic Greco-Roman wrestling move is simply unbeatable. We'd like to think the same holds true for our Series 77 *Full Nelson* Environmental Shrink Boots. Properly applied, Series 77 boots provide a dependable, leak-proof seal for interconnect cable assemblies. Optional adhesive coatings on the inside of the boot provide a watertight, high-strength bond to the cable jacket and the connector or adapter. And the Glenair shape-memory boot material formula works every time. So if you're worried about sealing effectiveness, if you want long-lasting environmental protection, if you want an ingress prevention solution that won't lose its grip after years and years of service, get a Series 77 *Full Nelson*—the environmental shrink boot with the iron grip of a championship wrestler.



# Tools and Accessories

## Crimp Tools, Positioners, Insertion and Extraction Tools and More

### Outstanding Product Availability

Many of the contacts in this book utilize crimping technology to effect contact to wire termination. The non-mating end of a crimp contact (the wire barrel) is a hollow cylinder into which a stripped wire (conductor) is inserted. The sidewalls of the wire barrel are then mechanically compressed (uniformly deformed) using a crimping tool to captivate the stripped wire.

The crimped wire to contact termination can then be manually, or with the assistance of a hand-held tool, clipped into place in the connector. The physical compression (deformation) of a contact barrel around a conductor in order to make an electrical connection must be accomplished in a proscribed and precise manner using the exact tools and accessories to achieve the desired gas tight crimp. This section of the book presents an organized inventory for all the tools and accessories necessary, including contact insertion and extraction tools, for the reliable termination and use of SAE-AS39029 and other industry standard crimp type contacts.



- ◆ Industry Standard Crimp Tools and Accessories
- ◆ One-Stop-Tool-Shopping for All Glenair Contact Types and Sizes
- ◆ Outstanding Technical Support and Assembly Procedures
- ◆ Same-Day Availability on Most Popular Tools and Accessories

#### Miniature Adjustable Crimp Tools



These crimp tools perform precision eight indent crimps for gas tight wire terminations and excellent tensile strength. Adjustment wheel has 8 settings. Ratchet mechanism prevents improper crimps. Use with bayonet type positioners. Check calibration with M22520/3 gages. Length is 6.75 inches, weight is approx. 10 oz.

**A** Standard M22520/2-01 crimper. Use with standard #23, #22D and #20HD contacts, and with M39029/76 and /78 coaxial center contacts. Requires positioner, ordered separately.

**B** Special MH992 crimper used with 50 ohm matched impedance coaxial inner contacts. Requires positioner, ordered separately.



| Figure | Part Number    | Military Part Number | Daniels Part Number |
|--------|----------------|----------------------|---------------------|
| A      | <b>809-015</b> | M22520/2-01          | AFM8                |
| B      | <b>809-128</b> | (none)               | MH992               |

#### Positioners For Use With Miniature Adjustable Crimp Tools



These bayonet-type positioners hold contacts at correct height for crimping with M22520/2 type miniature step adjustable tools, above. Face plate shows correct tool settings.



| Figure    | Part Number    | Military Part Number | Daniels Part Number   | For Use With  |
|-----------|----------------|----------------------|-----------------------|---|
| C         | <b>809-005</b> | (none)               | K1461                 | Size #23 contacts for #22-#28 AWG wire                                  |
| D         | <b>809-057</b> | (none)               | (none)                | Small bore #23 for #26-#30 AWG wire                                     |
| E         | <b>809-125</b> | M22520/2-35          | K532-1                | M39029/76 and /78 coax inner contact                                    |
| F         | <b>809-124</b> | (none)               | K1360                 | Matched impedance #12 coax inner contact                                |
| G         | <b>809-135</b> | M22520/2-34          | K323                  | M39029/27 and /28 coax inner contact                                    |
| H         | <b>859-006</b> | (none)               | K1721                 | Matched impedance #12 coax inner contact. (Use with 809-128 crimp tool) |
| I         | <b>809-206</b> | (none)               | (none)                | #20HD contacts  |
| Not Shown |                | M22520/2-10          | K43                   | #20 contact, series I, II, III and IV                                   |
|           |                | M22520/2-09          | K42                   | #22D contact, series I, II, III and IV Pin                              |
|           |                | M22520/2-07          | K40                   | #22D contact, series I, III and IV Socket                               |
|           |                | M22520/2-06          | K41                   | #22D contact, series II Socket  |
|           |                | M22520/2-35          | K532-1                | #16 contact, series I, II, III and IV                                   |
|           | M22520/2-37    | K709                 | Quadrax Inner Contact |   |



## Contact Tools Crimp Tools and Positioners for Coaxial Contacts



### Crimp Tool And Positioner For #12, #16 and #20 Power Contacts, Crimp Adapters



**J** Crimp tool for use with size #20, #16 and #12 power pins. 9.75 inches OAL, 1.25 pounds. Use with M39029/57 and /58 contacts and 809-093 adapters.

**K** Positioner for use with size #20, #12 and #16 Power contacts.

**L** Positioner for use with 809-093 Mighty Mouse and Micro Crimp wire adapters.

| Figure | Part Number    | Military Part Number | Daniels Part Number |
|--------|----------------|----------------------|---------------------|
| J      | <b>809-136</b> | M22520/1-01          | AF8                 |
| K      | <b>809-137</b> | M22520/1-04          | TH163               |
| L      | <b>809-138</b> | (none)               | TH653               |

### Crimp Tool And Positioner For #16 Coaxial Outer Contact



For crimping size #16 shield sleeves. These mil spec approved tools feature a ratchet mechanism to prevent damage from over crimping. Check calibration with M22520/3 gage.

**M** Crimp tool for use with size #16 coaxial contacts. Blue handles. 9.75 inches OAL, 1.25 pounds.

**N** Positioner for use with size #16 coaxial contacts. Use with 809-127 (M22520/4-01) crimp tool.

| Figure | Part Number    | Military Part Number | Daniels Part Number |
|--------|----------------|----------------------|---------------------|
| M      | <b>809-127</b> | M22520/4-01          | GS100-1             |
| N      | <b>809-126</b> | M22520/4-02          | GP295               |

### Crimp Tool And Positioner For #12 Coaxial Outer Contact



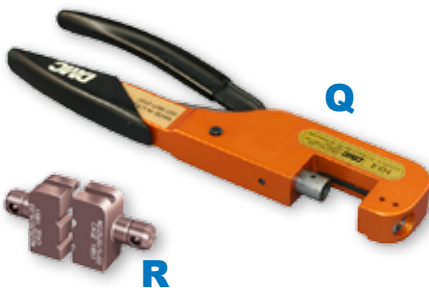
For crimping size #12 shield sleeves. These mil spec approved tools feature a ratchet mechanism to prevent damage from over crimping. Check calibration with M22520/3 gage.

**O** Crimp tool for use with size #12 coaxial contacts. Black handles. 9.75 inches OAL, 1.25 pounds.

**P** Positioner for use with size #12 coaxial contacts. Use with 809-133 (M22520/31-01) crimp tool.

| Figure | Part Number    | Military Part Number | Daniels Part Number |
|--------|----------------|----------------------|---------------------|
| O      | <b>809-133</b> | M22520/31-01         | GS200-1             |
| P      | <b>809-134</b> | M22520/31-02         | G2P330              |

### Parallel Action Crimp Tool and Hex Die Set for 50 Ohm Matched Impedance #12 Coax

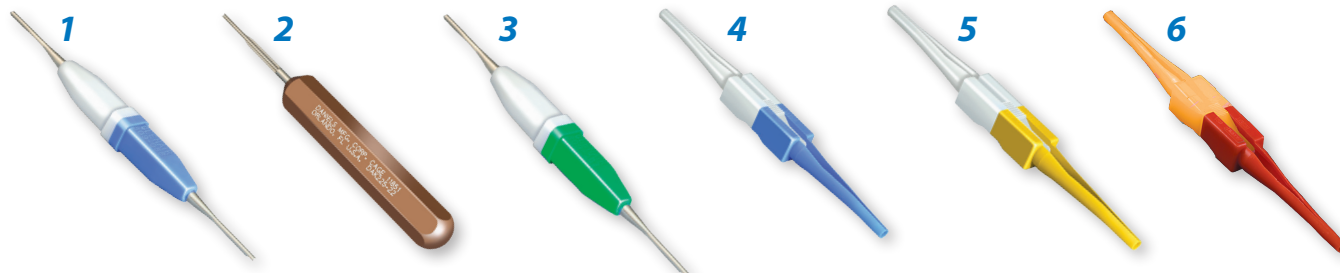


**Q** Parallel action tool for use with hex crimp dies. 11 inches OAL, 2.0 pounds. Anodized aluminum frame, steel mechanism, plastic handles. Includes tool for die set extraction. Accepts all M22520/5 die sets.

**R** Die set for terminating coaxial shield to outer contact. Use with size #12 matched impedance M39029/102 and 103 type coaxial contacts. Set consists of upper and lower halves. Made of hardened steel with black oxide finish. Die set has two closures.

| Figure | Part Number    | Military Part Number | Daniels Part Number |
|--------|----------------|----------------------|---------------------|
| Q      | <b>809-129</b> | M22520/5-01          | HX4                 |
| R      | <b>809-130</b> | M22520/5-03          | Y196                |

#### Contact Insertion and Extraction Tools



**1** Insertion/Extraction Tool for #23 Contacts. This tool features molded plastic grips and sturdy stainless steel tips. Blue/White molded handle.

**2** Insertion Tool for #23 Contacts. This tool features anodized aluminum handle and stainless steel insertion tip.

**3** Insertion/Extraction Tool for #20HD Contacts. This tool features molded plastic grips and sturdy stainless steel tips. Green/White molded handle.

**4** Insertion/Extraction Tool for #16 Contacts. Use with size #16 coaxial or power contacts. Economical molded plastic. White extraction tip, blue insertion tip.

**5** Insertion/Extraction Tool for #12 Contacts. Use with size #12 coaxial or power contacts. Molded plastic. White extraction tip, yellow insertion tip.

**6** Insertion/Extraction Tool for #20 Contacts. Molded plastic. Orange extraction tip, red insertion tip.

| Figure | Size  | Type                 | Part Number     | Military Part Number | Daniels Part Number |
|--------|-------|----------------------|-----------------|----------------------|---------------------|
| 1      | #23   | Insertion/Extraction | <b>809-088</b>  | (None)               | (None)              |
| 2      | #23   | Insertion Only       | <b>809-013</b>  | (None)               | DAK225-22           |
| 3      | #20HD | Insertion/Extraction | <b>809-203D</b> | (None)               | (None)              |
| 4      | #16   | Insertion/Extraction | <b>809-131</b>  | M81969/14-03         | (None)              |
| 5      | #12   | Insertion/Extraction | <b>809-132</b>  | M81969/14-04         | (None)              |
| 6      | #20   | Insertion/Extraction | <b>809-207</b>  | M81969/14-10         | (None)              |
|        | #22   | Insertion/Extraction | <b>(None)</b>   | M81969/14-01         | (None)              |

#### Contact Retention Tester for Size #23 Contacts



Check for properly seated contacts with this spring-loaded tester. Apply the tool tip to the mating end of a contact. Push on the handle until the spring compresses to the recommended force. A visual indicator shows full compression. The contact is properly retained if it is not displaced.

The adjustable handle should be set to 3.2 pounds (14.2 N). The pin tip is used with #23 pin contacts. The socket tip is used with #23 socket contacts.

Order the complete kit, or order the tips and handle separately.

| Figure | Description            | Part Number      | Daniels Part Number |
|--------|------------------------|------------------|---------------------|
| 1      | Handle                 | <b>809-107-1</b> | HT250-2             |
| 2      | Pin Tip                | <b>809-107-2</b> | 68-023-01           |
|        | Socket Tip (not shown) | <b>809-107-3</b> | 67-023-01           |
|        | Complete Kit           | <b>809-107-4</b> | (None)              |

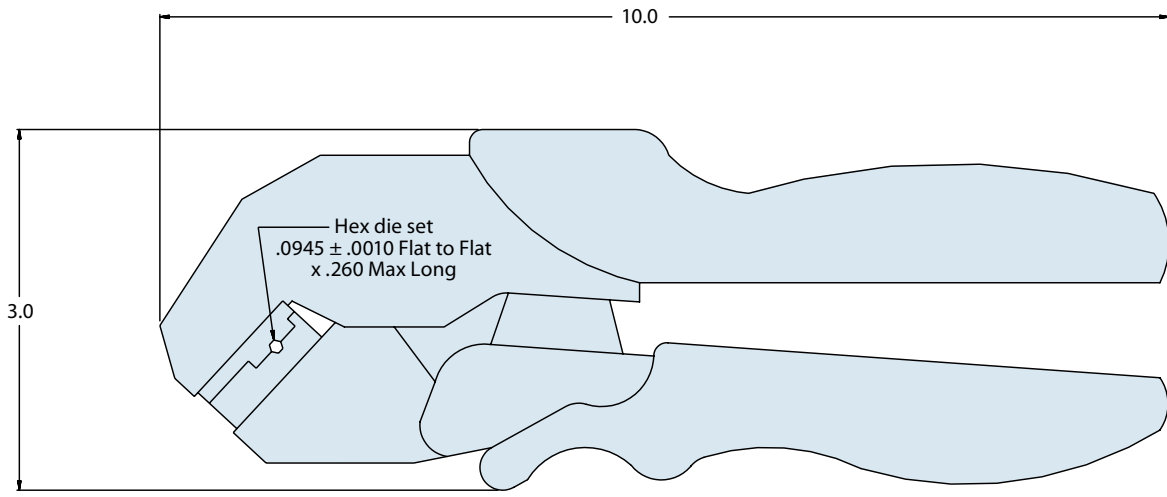
**182-012**  
**Fiber Optic Crimp Tool**



**Fiber Optic Terminus Crimping Tool for M29504, GHD, GFOCA and NGCON**

The Glenair fiber optic crimping tool enables users to quickly and effectively terminate the crimp sleeve to the cable strength member for a secure mechanical junction. The tool is compatible with many common termini styles, including M29504, Glenair High Density (GHD), GFOCA and NGCON.

| Part Number    | Compatible Termini                |
|----------------|-----------------------------------|
| <b>182-012</b> | 181-039 M29504/14 Pin             |
|                | 181-040 M29504/15 Socket          |
|                | 181-011 #16 Socket                |
|                | 181-012 #16 Pin                   |
|                | 181-047 Genderless GHD, Keyed     |
|                | 181-056 Genderless GHD, Non-Keyed |
|                | 181-050 Genderless GFOCA          |
|                | 181-043 Genderless NGCON          |

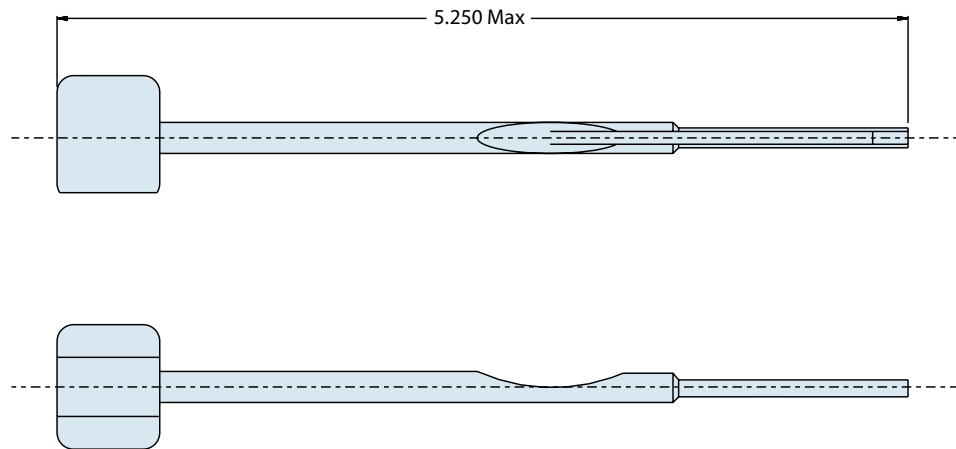
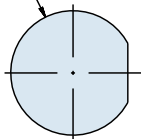


## Straight Insertion Tool for Fiber Optic Termini

The preferred tool of seasoned fiber optic technicians, the Glenair straight insertion tool is designed to aid users in populating connectors with fiber optic termini. Gone are the days of damaged fibers and sore fingers—this convenient tool features a comfortable handle and specially designed insertion tip for use with M29504, GHD and many other termini available from Glenair.

| Part Number    | Compatible Termini                |
|----------------|-----------------------------------|
| <b>182-013</b> | 181-039 M29504/14 Pin             |
|                | 181-040 M29504/15 Socket          |
|                | 181-051 M29504/03 Dummy           |
|                | 181-011 #16 Socket                |
|                | 181-012 #16 Pin                   |
|                | 181-021 #16 Socket                |
|                | 181-022 #16 Pin                   |
|                | 181-056 Genderless GHD, Non-Keyed |

Ø .850  
Max



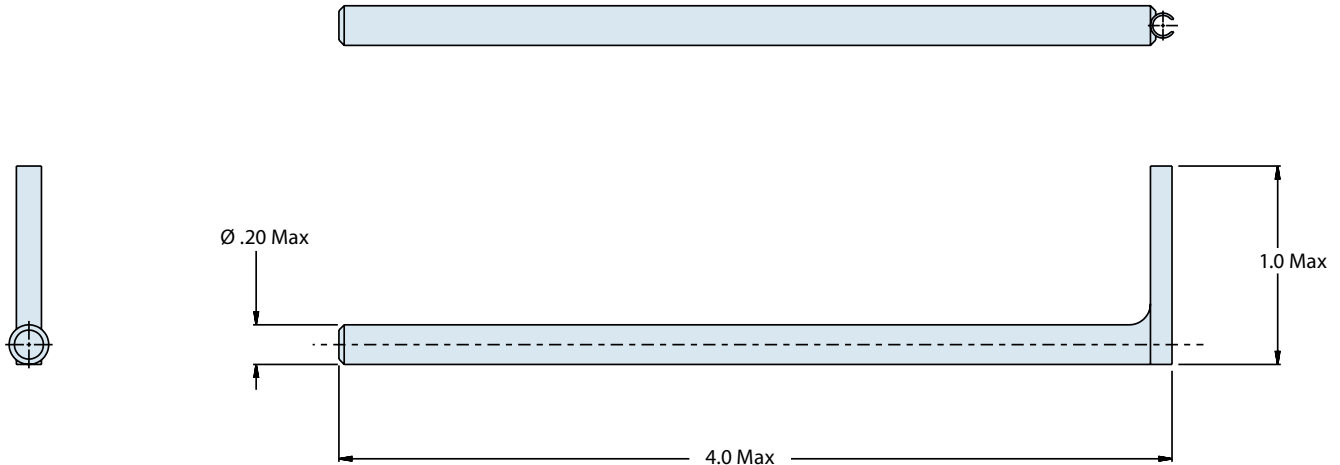
**182-014**  
**90° Insertion Tool**  
**For Fiber Optic Termini**



**Right Angle (90°) Insertion Tool for Fiber Optic Termini**

The Glenair 90° terminus insertion tool is designed to help populate connectors with fiber termini in situations where space is limited—while offering users the same easy insertion as with our straight 182-013 tool. Ideal for use in boxes and on connectors with backshells that inhibit normal rear insertion. Designed for use with M29504, GHD and many other termini available from Glenair.

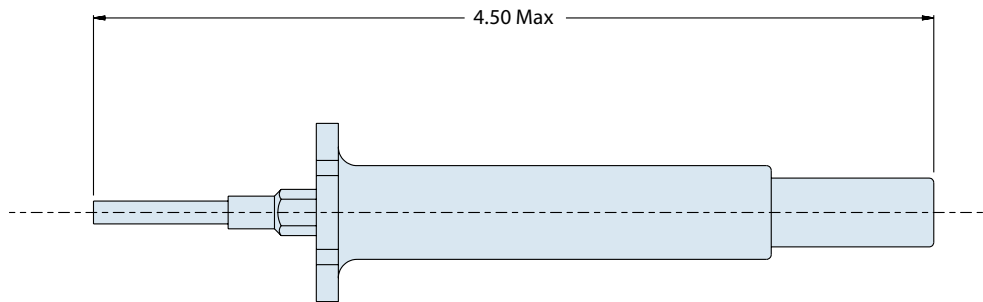
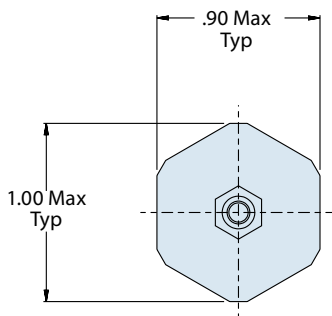
| Part Number    | Compatible Termini       |
|----------------|--------------------------|
| <b>182-014</b> | 181-039 M29504/14 Pin    |
|                | 181-040 M29504/15 Socket |
|                | 181-051 M29504/03 Dummy  |
|                | 181-011 #16 Socket       |
|                | 181-012 #16 Pin          |



## Extraction Tool for Fiber Optic Termini

The Glenair fiber optic terminus extraction tool is designed for use with front release/rear entry termini. Sliding the tool into the face of the insulator and depressing the plunger—after first removing the alignment sleeve with an 182-016 tool—enables users to quickly and easily remove the fiber terminus from the rear of the insert. Compatible with Glenair front release fiber optic termini.

| Part Number    | Compatible Termini |                  |
|----------------|--------------------|------------------|
| <b>182-015</b> | 181-039            | M29504/14 Pin    |
|                | 181-040            | M29504/15 Socket |
|                | 181-051            | M29504/03 Dummy  |
|                | 181-011            | #16 Socket       |
|                | 181-012            | #16 Pin          |



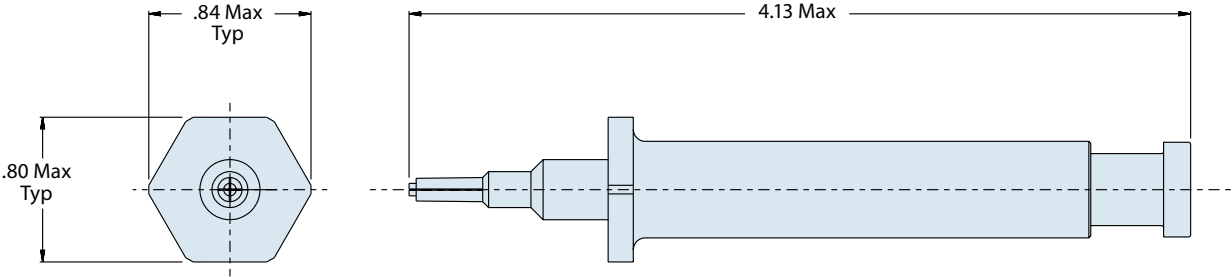
**182-016**  
**Alignment Sleeve Insertion/Extraction Tool**  
**For Fiber Optic Termini**



**Alignment Sleeve Insertion/Extraction Tool for Fiber Optic Termini**

The Glenair alignment sleeve extraction tool utilizes a special claw to extract alignment sleeves from the face of front-release fiber optic inserts. Users are afforded easy serviceability of front release termini by sliding the tool's tip into the front of the insert, depressing the plunger, allowing the claws to purchase on the alignment sleeve, then gently pulling away from the face of the connector. Used in conjunction with 182-015 terminus extraction tool.

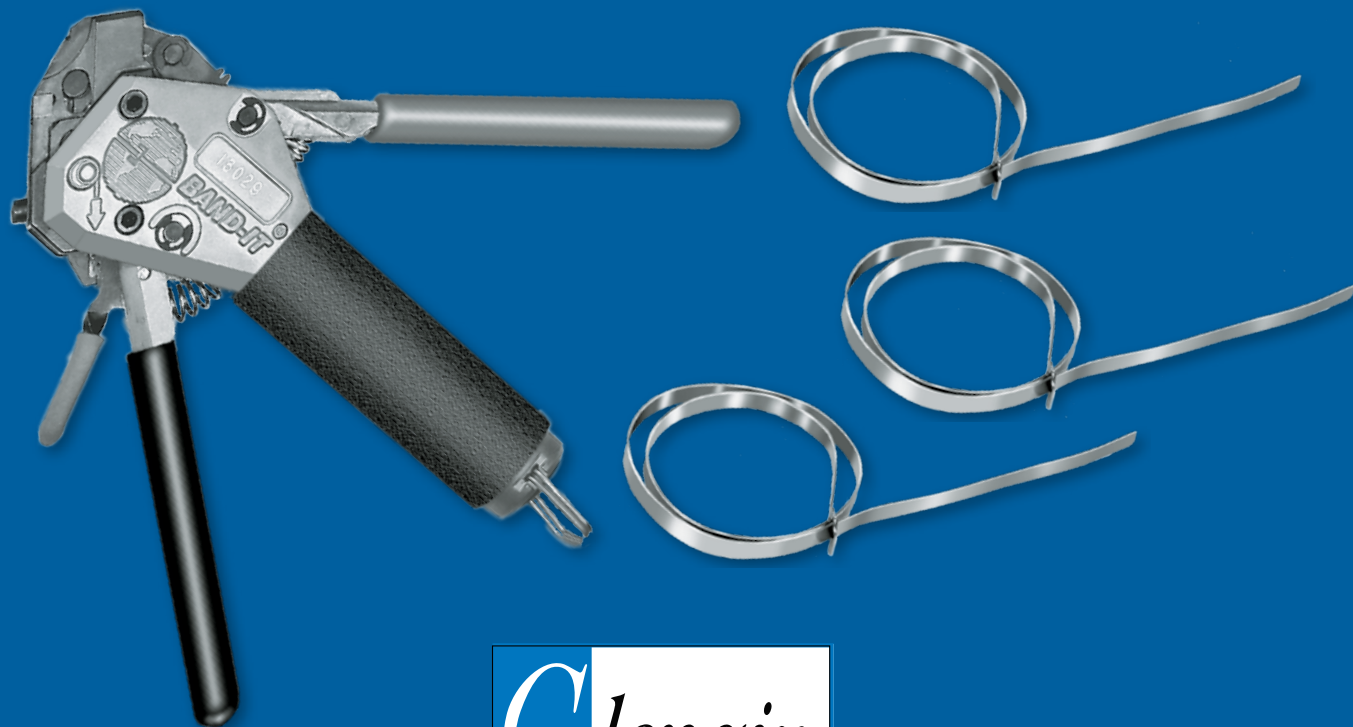
| Part Number | Compatible Termini |                  |
|-------------|--------------------|------------------|
| 182-016     | 181-040            | M29504/15 Socket |
|             | 181-011            | #16 Socket       |



**BAND-IT**

# THE EMI/RFI BRAID BANDING SOLUTION

**High-Speed Termination of EMI/RFI  
Cable Shielding (Screening) with Easy to  
Use *BAND-IT*® Tools and Bands.**



**Glencair**®



## Chapter A: SAE-AS39029 Crimp Contacts Part Number Index



| Military Part Number | Glenair Part Number | Contact Size | Wire Accommodation | Pin / Socket | BIN Color Striping |        |        | Product Page |
|----------------------|---------------------|--------------|--------------------|--------------|--------------------|--------|--------|--------------|
|                      |                     |              |                    |              |                    |        |        |              |
| M39029/56-348        | 850-001-22-348      | 22           | 22-28 AWG          | Socket       | Orange             | Yellow | Grey   | A-6          |
| M39029/56-351        | 850-001-20-351      | 20           | 20-24 AWG          | Socket       | Orange             | Green  | Brown  |              |
| M39029/56-352        | 850-001-16-352      | 16           | 16-20 AWG          | Socket       | Orange             | Green  | Red    |              |
| M39029/56-353        | 850-001-12-353      | 12           | 12-14 AWG          | Socket       | Orange             | Green  | Orange |              |
| M39029/56-527        | 850-001-10-527      | 10           | 10 AWG             | Socket       | Green              | Red    | Violet |              |
| M39029/57-354        | 850-003-22-354      | 22           | 22-28 AWG          | Socket       | Orange             | Green  | Yellow | A-8          |
| M39029/57-357        | 850-003-20-357      | 20           | 20-24 AWG          | Socket       | Orange             | Green  | Violet |              |
| M39029/57-358        | 850-003-16-358      | 16           | 16-20 AWG          | Socket       | Orange             | Green  | Grey   |              |
| M39029/57-359        | 850-003-12-359      | 12           | 12-14 AWG          | Socket       | Orange             | Green  | White  |              |
| M39029/58-360        | 850-002-22-360      | 22           | 22-28 AWG          | Pin          | Orange             | Blue   | Black  | A-10         |
| M39029/58-363        | 850-002-20-363      | 20           | 20-24 AWG          | Pin          | Orange             | Blue   | Orange |              |
| M39029/58-364        | 850-002-16-364      | 16           | 16-20 AWG          | Pin          | Orange             | Blue   | Yellow |              |
| M39029/58-365        | 850-002-12-365      | 12           | 12-14 AWG          | Pin          | Orange             | Blue   | Green  |              |
| M39029/58-528        | 850-002-10-528      | 10           | 10 AWG             | Pin          | Green              | Red    | Grey   |              |
| M39029/63-368        | 850-021-20-368      | 20           | 20-24 AWG          | Socket       | Orange             | Blue   | Grey   | A-12         |
| M39029/64-369        | 850-022-20-369      | 20           | 20-24 AWG          | Pin          | Orange             | Blue   | White  | A-13         |
| M39029/83-450        | 850-004-20-450      | 20           | 22-26 AWG          | Pin          | Yellow             | Green  | Black  | A-14         |
| M39029/83-451        | 850-004-20-451      | 20           | 28-32 AWG          | Pin          | Yellow             | Green  | Brown  |              |
| M39029/83-508        | 850-004-20-508      | 20           | 20-24 AWG          | Pin          | Green              | Black  | Grey   |              |
| M39029/84-452        | 850-005-20-452      | 20           | 22-26 AWG          | Socket       | Yellow             | Green  | Red    | A-16         |
| M39029/84-453        | 850-005-20-453      | 20           | 28-32 AWG          | Socket       | Yellow             | Green  | Orange |              |
| M39029/84-509        | 850-005-20-509      | 20           | 20-24 AWG          | Socket       | Green              | Black  | White  |              |
| M39029/106-614       | 850-006-22-614      | 22           | 22-28 AWG          | Socket       | Blue               | Brown  | Yellow | A-18         |
| M39029/106-615       | 850-006-20-615      | 20           | 20-24 AWG          | Socket       | Blue               | Brown  | Green  |              |
| M39029/106-616       | 850-006-16-616      | 16           | 16-20 AWG          | Socket       | Blue               | Brown  | Blue   |              |
| M39029/106-617       | 850-006-12-617      | 12           | 12-14 AWG          | Socket       | Blue               | Brown  | Violet |              |
| M39029/106-618       | 850-006-10-618      | 10           | 10 AWG             | Socket       | Blue               | Brown  | Grey   |              |
| M39029/107-620       | 850-007-22-620      | 22           | 22-28 AWG          | Pin          | Blue               | Red    | Black  | A-20         |
| M39029/107-621       | 850-007-20-621      | 20           | 20-24 AWG          | Pin          | Blue               | Black  | Brown  |              |
| M39029/107-622       | 850-007-16-622      | 16           | 16-20 AWG          | Pin          | Blue               | Red    | Red    |              |
| M39029/107-623       | 850-007-12-623      | 12           | 12-14 AWG          | Pin          | Blue               | Red    | Orange |              |
| M39029/107-624       | 850-007-10-624      | 10           | 10 AWG             | Pin          | Blue               | Red    | Yellow |              |



## Chapter B: High-Performance Shielded Contacts Part Number Index

| Military Part Number | Glenair Part Number | Contact Size | Pin / Socket | Contact Type | BIN Color Striping |       |        | Product Page |
|----------------------|---------------------|--------------|--------------|--------------|--------------------|-------|--------|--------------|
|                      |                     |              |              |              |                    |       |        |              |
| M39029/27-210        | 852-001-12-210      | 12           | Socket       | Coaxial      | Red                | Brown | Black  | B-4          |
| M39029/27-402        | 852-001-12-402      | 12           | Socket       | Coaxial      | Yellow             | Black | Red    |              |
| M39029/27-403        | 852-001-12-403      | 12           | Socket       | Coaxial      | Yellow             | Black | Orange |              |
| M39029/27-404        | 852-001-12-404      | 12           | Socket       | Coaxial      | Yellow             | Black | Yellow |              |
| M39029/27-405        | 852-001-12-405      | 12           | Socket       | Coaxial      | Yellow             | Black | Green  |              |
| M39029/27-406        | 852-001-12-406      | 12           | Socket       | Coaxial      | Yellow             | Black | Blue   |              |
| M39029/27-407        | 852-001-12-407      | 12           | Socket       | Coaxial      | Yellow             | Black | Violet |              |
| M39029/27-408        | 852-001-12-408      | 12           | Socket       | Coaxial      | Yellow             | Black | Gray   |              |
| M39029/28-211        | 852-002-12-211      | 12           | Pin          | Coaxial      | Red                | Brown | Brown  | B-6          |
| M39029/28-409        | 852-002-12-409      | 12           | Pin          | Coaxial      | Yellow             | Black | White  |              |
| M39029/28-410        | 852-002-12-410      | 12           | Pin          | Coaxial      | Yellow             | Brown | Black  |              |
| M39029/28-411        | 852-002-12-411      | 12           | Pin          | Coaxial      | Yellow             | Brown | Brown  |              |
| M39029/28-412        | 852-002-12-412      | 12           | Pin          | Coaxial      | Yellow             | Brown | Red    |              |
| M39029/28-413        | 852-002-12-413      | 12           | Pin          | Coaxial      | Yellow             | Brown | Orange |              |
| M39029/28-414        | 852-002-12-414      | 12           | Pin          | Coaxial      | Yellow             | Brown | Yellow |              |
| M39029/28-415        | 852-002-12-415      | 12           | Pin          | Coaxial      | Yellow             | Brown | Green  |              |
| M39029/59-366        | 852-006-08-366      | 08           | Socket       | Coaxial      | Orange             | Blue  | Blue   | B-14         |
| M39029/60-367        | 852-007-08-367      | 08           | Pin          | Coaxial      | Orange             | Blue  | Violet | B-15         |
| M39029/75-416        | 852-003-12-416      | 12           | Socket       | Coaxial      | Yellow             | Brown | Blue   | B-8          |
| M39029/75-417        | 852-003-12-417      | 12           | Socket       | Coaxial      | Yellow             | Brown | Violet |              |
| M39029/75-418        | 852-003-12-418      | 12           | Socket       | Coaxial      | Yellow             | Brown | Gray   |              |
| M39029/75-419        | 852-003-12-419      | 12           | Socket       | Coaxial      | Yellow             | Brown | White  |              |
| M39029/75-420        | 852-003-12-420      | 12           | Socket       | Coaxial      | Yellow             | Red   | Black  |              |
| M39029/75-421        | 852-003-12-421      | 12           | Socket       | Coaxial      | Yellow             | Red   | Brown  |              |
| M39029/75-422        | 852-003-12-422      | 12           | Socket       | Coaxial      | Yellow             | Red   | Red    |              |
| M39029/75-423        | 852-003-12-423      | 12           | Socket       | Coaxial      | Yellow             | Red   | Orange |              |
| M39029/76-424        | 852-008-16-424      | 16           | Pin          | Coaxial      | Yellow             | Red   | Yellow | B-16         |
| M39029/76-425        | 852-008-16-425      | 16           | Pin          | Coaxial      | Yellow             | Red   | Green  |              |

## Chapter B: High-Performance Shielded Contacts Part Number Index



| Military Part Number | Glenair Part Number | Contact Size | Pin / Socket | Contact Type      | BIN Color Striping |        |        | Product Page |
|----------------------|---------------------|--------------|--------------|-------------------|--------------------|--------|--------|--------------|
|                      |                     |              |              |                   |                    |        |        |              |
| M39029/76-426        | 852-008-16-426      | 16           | Pin          | Coaxial           | Yellow             | Red    | Blue   | B-16         |
| M39029/76-427        | 852-008-16-427      | 16           | Pin          | Coaxial           | Yellow             | Red    | Violet |              |
| M39029/77-428        | 852-009-16-428      | 16           | Socket       | Coaxial           | Yellow             | Red    | Gray   | B-18         |
| M39029/77-429        | 852-009-16-429      | 16           | Socket       | Coaxial           | Yellow             | Red    | White  |              |
| M39029/77-430        | 852-009-16-430      | 16           | Socket       | Coaxial           | Yellow             | Orange | Black  |              |
| M39029/77-431        | 852-009-16-431      | 16           | Socket       | Coaxial           | Yellow             | Orange | Brown  |              |
| M39029/78-432        | 852-010-16-432      | 16           | Socket       | Coaxial           | Yellow             | Orange | Red    |              |
| M39029/78-433        | 852-010-16-433      | 16           | Socket       | Coaxial           | Yellow             | Orange | Orange | B-20         |
| M39029/78-434        | 852-010-16-434      | 16           | Socket       | Coaxial           | Yellow             | Orange | Yellow |              |
| M39029/78-435        | 852-010-16-435      | 16           | Socket       | Coaxial           | Yellow             | Orange | Green  |              |
| M39029/90-529        | 853-001-08-529      | 8            | Pin          | Concentric Twinax | Green              | Red    | White  | B-22         |
| M39029/91-530        | 853-002-08-530      | 8            | Socket       | Concentric Twinax | Green              | Orange | Black  | B-23         |
| M39029/102-558       | 852-004-12-558      | 12           | Pin          | Coaxial           | Green              | Green  | Gray   | B-10         |
| M39029/103-559       | 852-005-12-559      | 12           | Socket       | Coaxial           | Green              | Green  | White  | B-12         |
| M39029/113-625       | 853-003-08-625      | 8            | Pin          | Concentric Twinax | Blue               | Red    | Green  | B-24         |
| M39029/113-626       | 853-003-08-626      | 8            | Pin          | Concentric Twinax | Blue               | Red    | Blue   |              |
| M39029/114-628       | 853-004-08-628      | 8            | Socket       | Concentric Twinax | Blue               | Red    | Gray   | B-25         |
| M39029/114-629       | 853-004-08-629      | 8            | Socket       | Concentric Twinax | Blue               | Red    | White  |              |
| N/A                  | 854-001-01          | 8            | Pin          | Quadrax           | N/A                | N/A    | N/A    | B-26         |
|                      | 854-001-02          | 8            | Pin          | Quadrax           |                    |        |        |              |
|                      | 854-001-03          | 8            | Pin          | Quadrax           |                    |        |        |              |
|                      | 854-001-04          | 8            | Pin          | Quadrax           |                    |        |        |              |
|                      | 854-001-05          | 8            | Pin          | Quadrax           |                    |        |        |              |
|                      | 854-002-01          | 8            | Socket       | Quadrax           |                    |        |        | B-27         |
|                      | 854-002-02          | 8            | Socket       | Quadrax           |                    |        |        |              |
|                      | 854-002-03          | 8            | Socket       | Quadrax           |                    |        |        |              |
|                      | 854-002-04          | 8            | Socket       | Quadrax           |                    |        |        |              |
|                      | 854-002-05          | 8            | Socket       | Quadrax           |                    |        |        |              |



## Chapter C: Fiber Optic Termini Part Number Index

| Glenair Part Number  | Part Description                                     | Contact Size | Pin / Socket   | Connector Series       | Product Page |
|--|--|--------------|----------------|------------------------|--------------|
| <b>MIL-DTL-38999 Fiber Optic Contacts</b>                      |  |              |                |                        |              |
| <a href="#">181-001</a>  | M29504/5 Socket Terminus                             | 16           | Socket         | D38999 Series III      | C-4          |
| <a href="#">181-002</a>  | M29504/4 Pin Terminus                                | 16           | Pin            | D38999 Series III      | C-6          |
| <a href="#">181-035</a>  | Socket, Large Core Fiber                             | 16           | Socket         | D38999 Series III      | C-8          |
| <a href="#">181-036</a>  | Pin, Large Core Fiber                                | 16           | Pin            | D38999 Series III      | C-9          |
| <a href="#">181-052</a>  | Jewel Pin Terminus                                   | 16           | Pin            | D38999 Series III      | C-10         |
| <a href="#">181-053</a>  | Jewel Socket Terminus                                | 16           | Socket         | D38999 Series III      | C-11         |
| <a href="#">181-048</a>  | Sealing Plug   | 16           | Pin            | D38999 Series III      | C-12         |
| <a href="#">181-065</a>  | #20 Pin Terminus                                     | 20           | Pin            | D38999 Series III      | C-13         |
| <a href="#">181-066</a>  | #20 Socket Terminus                                  | 20           | Socket         | D38999 Series III      | C-14         |
| <b>MIL-PRF-28876 Fiber Optic Contacts</b>                      |  |              |                |                        |              |
| <a href="#">181-039</a>  | M29504/14 Pin Terminus                               | 16           | Pin            | M28876                 | C-15         |
| <a href="#">181-040</a>  | M29504/15 Socket Terminus                            | 16           | Socket         | M28876                 | C-16         |
| <a href="#">181-051</a>  | M29504/3 Dummy Terminus                              | 16           | Dummy          | M28876                 | C-33         |
| <b>Series 80 Mighty Mouse Fiber Optic Contacts</b>             |  |              |                |                        |              |
| <a href="#">181-057</a>  | Mighty Mouse Pin Terminus                            | 16           | Pin            | Series 80 Mighty Mouse | C-18         |
| <a href="#">181-075</a>  | Mighty Mouse Socket Terminus                         | 16           | Socket         | Series 80 Mighty Mouse | C-19         |
| <b>Special Fiber Optic COTS Contacts Size 16 Front Release</b> |  |              |                |                        |              |
| <a href="#">181-011</a>  | Front Release Socket with Pressure Sealing O-Ring(s) | 16           | Socket         | COTS                   | C-20         |
| <a href="#">181-012</a>  | Front Release Pin                                    | 16           | Pin            | COTS                   | C-22         |
| <a href="#">181-051</a>  | M29504/3 Dummy Terminus                              | 16           | Dummy          | COTS                   | C-33         |
| <b>ARINC Type Fiber Optic Contacts</b>                         |  |              |                |                        |              |
| <a href="#">181-076</a>  | ARINC 801 Terminus                                   | 16           | Genderless Pin | ARINC 801              | C-24         |
| <a href="#">187-079</a>  | M29504/6 Pin Terminus                                | 16           | Pin            | ARINC 404, 600         | C-25         |
| <a href="#">187-080</a>  | M29504/7 Socket Terminus                             | 16           | Socket         | ARINC 404, 600         | C-26         |
| <b>Glenair High Density (GHD) Fiber Optic Contacts</b>         |  |              |                |                        |              |
| <a href="#">181-056</a>  | GHD Terminus, Non-keyed                              | 18           | Genderless Pin | GHD                    | C-28         |
| <a href="#">181-047</a>  | GHD Terminus, Keyed                                  | 18           | Genderless Pin | GHD                    | C-30         |
| <a href="#">181-058</a>  | Dummy Terminus                                       | 18           | Dummy          | GHD                    | C-32         |
| <b>Glenair GFOCA Fiber Optic Contacts</b>                      |  |              |                |                        |              |
| <a href="#">181-050</a>  | GFOCA Terminus                                       |              | Genderless Pin | GFOCA                  | C-34         |
| <a href="#">181-059</a>  | Dummy Terminus                                       |              | Dummy          | GFOCA                  | C-36         |
| <b>Next Generation Fiber Optic (NGCON) Contacts</b>            |  |              |                |                        |              |
| <a href="#">181-043</a>  | M29504/18  | 16           | Genderless Pin | M64266                 | C-37         |

## Chapter D: Special Purpose Contacts Part Number Index



| Glenair Part Number | Part Description  | Contact Size | Type          | Product Page |
|---------------------|---|--------------|---------------|--------------|
| 859-xxx             | Grommet Sealing Plugs (MS27488 Type)                    | 0-23         | Sealing Plug  | D-3          |
| 809-001             | Series 80 Mighty Mouse Pin Contact                      | 23           | Crimp Contact | D-4          |
| 809-002             | Series 80 Mighty Mouse Socket Contact                   | 23           | Crimp Contact | D-5          |
| 857-010             | Pneumatic Socket Contact for Series 79                  | 12           | Pneumatic     | D-6          |
| 857-011             | Pneumatic Pin Contact for Series 79                     | 12           | Pneumatic     | D-7          |
| 850-010             | PCB Pin Contact to fit D38999/20 and /24                | 12-22        | PCB Pin       | D-8          |
| 850-011             | PCB Socket Contact to fit D38999/20 and /24             | 12-22        | PCB Socket    | D-9          |
| 850-013             | High Power Socket Contact                               | 8            | Power Socket  | D-10         |
| 850-014             | High Power Pin Contact                                  | 8            | Power pin     | D-11         |
| 850-015             | M39029/56 Type Socket Contact with Solder Cup           | 10-22        | Solder Cup    | D-12         |
| 850-016             | Pin Contact with Solder Cup                             | 10-22        | Solder Cup    | D-14         |
| 850-017             | M39029/58 Type Pin Contact with Solder Cup              | 12-22        | Solder Cup    | D-16         |
| 850-018             | M39029/56-348 Type Socket Contact                       | 22           | Crimp Contact | D-18         |
| 850-019             | M39029/58-360 Type Pin Contact                          | 22           | Crimp Contact | D-19         |
| 850-020             | M39029/57 Type Socket Contact                           | 22           | Crimp Contact | D-20         |
| 857-027             | M39029/58 Type High Power Pin with PC Tails             | 8            | PCB Power     | D-21         |
| 857-028             | M39029/56 Type High Power Socket with PC Tails          | 8            | PCB Power     | D-22         |
| 687-348             | Wire to Contact Crimp Adapter                           |              | Crimp Adapter | D-23         |
| 850-023             | M39029/87 Thermocouple Pin Contact                      | 16, 20, 22   | Thermocouple  | D-24         |
| 850-024             | M39029/88 Thermocouple Socket Contact; Series I, II, IV | 16, 20, 22   | Thermocouple  | D-26         |
| 850-025             | M39029/89 Thermocouple Socket Contact; Series II        | 16, 20, 22   | Thermocouple  | D-28         |



## Chapter E: Tools and Accessories Part Number Index

| Glenair Part Number  | Military Part Number | Part Description  | Product Page |
|--|----------------------|---|--------------|
| <b>Miniature Adjustable Crimp Tools</b>                                  |                      |   |              |
| 809-015  | M22520/2-01          | Standard miniature hand crimp tool  | E-2          |
| 809-128  | N/A                  | Special miniature hand crimp tool for use with 50ohm matched impedance contacts |              |
| <b>Positioners For Use With M22520/2 Miniature Adjustable Crimp Tool</b> |                      |   |              |
| 809-005  | N/A                  | Size #23 contacts for #22-#28 AWG wire  | E-2          |
| 809-057  | N/A                  | Small bore #23 for #26-#30 AWG wire   |              |
| 809-125  | M22520/2-35          | M39029/76 and /78 coax inner contact  |              |
| 809-124  | N/A                  | Matched impedance #12 coax inner contact  |              |
| 809-135  | M22520/2-34          | M39029/27 and /28 coax inner contact  |              |
| 859-006  | N/A                  | Matched impedance #12 coax inner contact. (Use with 809-128 crimp tool)         |              |
| 809-206  | N/A                  | #20HD contacts  |              |
| N/A  | M22520/2-10          | #20 contact, series I, II, III and IV   |              |
| N/A  | M22520/2-09          | #22D contact, series I, II, III and IV Pin                                      |              |
| N/A  | M22520/2-07          | #22D contact, series I, III and IV Socket                                       |              |
| N/A  | M22520/2-06          | #22D contact, series II Socket  |              |
| N/A  | M22520/2-35          | #16 contact, series I, II, III and IV   |              |
| N/A  | M22520/2-34          | #12 contact, series I, II, III and IV   |              |
| N/A  | M22520/2-37          | Quadrax Inner Contact   |              |
| <b>Crimp Tool And Positioner For #12, #16 And #20 Power Contacts</b>     |                      |   |              |
| 809-136  | M22520/1-01          | Crimp tool for use with size #20, #16 and #12 power pins                        | E-3          |
| 809-137  | M22520/1-04          | Positioner for use with size #20, #12 and #16 Power contacts                    |              |
| 809-138  | N/A                  | Positioner for use with 809-093 adapters  |              |
| <b>Crimp Tool And Positioner For #16 Coaxial Outer Contact</b>           |                      |   |              |
| 809-127  | M22520/4-01          | Crimp tool for use with size #16 coaxial contacts.                              | E-3          |
| 809-126  | M22520/4-02          | Positioner for use with size #16 coaxial contacts                               |              |

## Chapter E: Tools and Accessories Part Number Index



| Glenair Part Number   | Military Part Number | Part Description   | Product Page |
|---|----------------------|--|--------------|
| <b>Crimp Tool And Positioner For #12 Coaxial Outer Contact</b>                              |                      |  |              |
| <a href="#">809-133</a>   | M22520/31-01         | Crimp tool for use with size #12 coaxial contacts.                 | E-3          |
| <a href="#">809-134</a>   | M22520/31-02         | Positioner for use with size #12 coaxial contacts                  |              |
| <b>Parallel Action Crimp Tool And Hex Die Set For 50 Ohm Matched Impedance #12 Contacts</b> |                      |  |              |
| <a href="#">809-129</a>   | M22520/5-01          | Parallel action tool for use with hex crimp dies                   | E-3          |
| <a href="#">809-130</a>   | M22520/5-03          | Die set for terminating coaxial shield to outer contact            |              |
| <b>Contact Insertion and Extraction Tools</b>   |                      |  |              |
| <a href="#">809-088</a>   | N/A                  | #23 Insertion/Extraction   | E-4          |
| <a href="#">809-013</a>   | N/A                  | #23 Insertion Only   |              |
| <a href="#">809-203</a>   | N/A                  | #20HD Insertion/Extraction   |              |
| <a href="#">809-131</a>   | M81969/14-03         | #16 Insertion/Extraction   |              |
| <a href="#">809-132</a>   | M81969/14-04         | #12 Insertion/extraction   |              |
| <a href="#">809-207</a>   | M81969/14-10         | #20 Insertion/extraction   |              |
| <b>Contact Retention Tester For #23 Contacts</b>  |                      |  |              |
| <a href="#">809-107-1</a>   | N/A                  | Tester Handle  | E-4          |
| <a href="#">809-107-2</a>   | N/A                  | Pin Tip  |              |
| <a href="#">809-107-3</a>   | N/A                  | Socket Tip   |              |
| <a href="#">809-107-4</a>   | N/A                  | Complete Kit   |              |
| <b>Fiber Optic Assembly Tools</b>   |                      |  |              |
| <a href="#">182-012</a>   | N/A                  | Fiber optic terminus crimping tool                                 | E-5          |
| <a href="#">182-013</a>   | N/A                  | Straight insertion tool for fiber optic termini                    | E-6          |
| <a href="#">182-014</a>   | N/A                  | Right angle 90° insertion tool for fiber optic termini             | E-7          |
| <a href="#">182-015</a>   | N/A                  | Extraction tool for fiber optic termini                            | E-8          |
| <a href="#">182-016</a>   | N/A                  | Alignment sleeve insertion/extraction tool for fiber optic termini | E-9          |

# WHY CHOOSE GLENAIR?



Plenty of Raw Materials!



Outstanding  
Customer Service!



Abundant Machining Capacity!



In-House Assembly!



Huge "Same-Day" Inventory!

**G**lenair®





# *A World of* Interconnect Solutions

## **Glenair, Inc.**

1211 Air Way • Glendale, California • 91201-2497

Telephone: 818-247-6000 • Fax: 818-500-9912 • [sales@glenair.com](mailto:sales@glenair.com)

[www.glenair.com](http://www.glenair.com)

---

### **Glenair Power Products Group**

860 N. Main Street Extension  
Wallingford, CT  
06492

Telephone:  
203-741-1115  
Facsimile:  
203-741-0053  
[sales@glenair.com](mailto:sales@glenair.com)

---

### **Glenair UK Ltd**

40 Lower Oakham Way  
Oakham Business Park  
P.O. Box 37, Mansfield  
Notts, NG18 5BY England

Telephone:  
44-1623-638100  
Facsimile:  
44-1623-638111  
[sales@glenair.co.uk](mailto:sales@glenair.co.uk)

---

### **Glenair Microway Systems**

7000 North Lawndale Avenue  
Lincolnwood, IL  
60712

Telephone:  
847-679-8833  
Facsimile:  
847-679-8849

---

### **Glenair Nordic AB**

Gustav III : S Boulevard 46  
S - 169 27 Solna  
Sweden

Telephone:  
46-8-50550000  
Facsimile:  
46-8-50550001  
[sales@glenair.se](mailto:sales@glenair.se)

---

### **Glenair Electric GmbH**

Siemensstrasse 9  
D-61449 Steinbach  
Germany

Telephone:  
49-6171-5905-0  
Facsimile:  
49-6171-5905-90  
[germany@glenair.com](mailto:germany@glenair.com)

---

### **Glenair Iberica**

C/ La Vega, 16  
45612 Velada  
Spain

Telephone:  
34-925-89-29-88  
Facsimile:  
34-925-89-29-87  
[sales@glenair.es](mailto:sales@glenair.es)

---

### **Glenair Italia S.R.L.**

Via Santi, 1  
20037 Paderno Dugnano  
Milano, Italy

Telephone:  
39-02-9108-2121  
Facsimile:  
39-02-9904-3565  
[sales-italia@glenair.it](mailto:sales-italia@glenair.it)

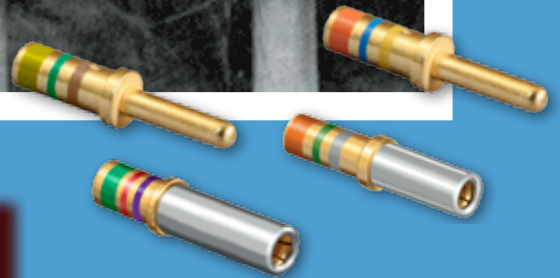
---

### **Glenair France SARL**

7, Avenue Parmentier  
Immeuble Central Parc #2  
31200 Toulouse  
France

Telephone:  
33-5-34-40-97-40  
Facsimile:  
33-5-61-47-86-10  
[sales@glenair.fr](mailto:sales@glenair.fr)

*Held Hostage to Long Lead Times?*  
**Need a Contact Now?**  
**M39029 Contacts In Stock!**



1211 Air Way  
Glendale, California 91201-2497

Telephone: 818-247-6000 · Facsimile: 818-500-9912 · E-mail: [sales@glenair.com](mailto:sales@glenair.com)

United States · United Kingdom · Germany · Nordic · France · Italy · Spain · Japan

[www.glenair.com](http://www.glenair.com)