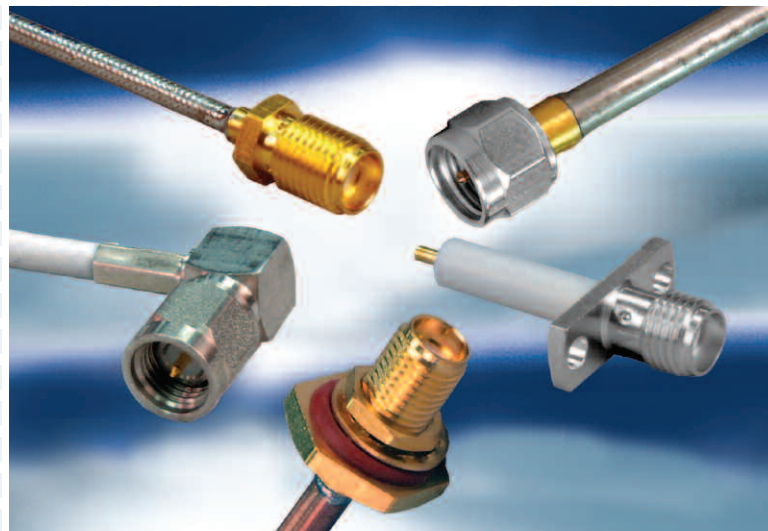



Connectivity...for  
Business-Critical Continuity

# *Stainless Steel SMA Connectors*

Product Catalog



**JOHNSON**<sup>®</sup>

  
**EMERSON**<sup>™</sup>  
Network Power

**Johnson® Stainless Steel SMA Connectors** meet or exceed the performance requirements of MIL-PRF-39012. All designs are based on 50 ohm system impedance per MIL-STD-348, and operate at frequencies up to 26.5 GHz.

## Applications

- Antennas
- Base stations
- Broadcast
- Cable assemblies
- Cellular
- Instrumentation
- Microwave Radio
- Radar
- Radios
- RF and Microwave Components
- Satcom
- Aircraft

## Features

- All contacts are plated with 50 micro-inches of gold for excellent durability and high frequency performance
- Stainless steel bodies are offered with passivation as a standard finish, and gold plating where soldering is required
- Plug interfaces and semi-rigid bulkhead jack bodies include gaskets for environmental sealing
- Cabled contacts are captivated upon assembly
- Flexible cable contacts can be crimped or soldered
- Semi-rigid cabled plug connectors are available in one piece versions, requiring solder attachment only between the cable jacket and connector body
- The right angle PC mount features a rugged one-piece body with a one-piece swept contact

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## ELECTRICAL SPECIFICATIONS

**Impedance:** 50 Ohms

**Frequency Range:**

|  |            |
|--|------------|
| Flexible cable connectors .....            | 0-12.4 GHz |
| Uncabled receptacles .....                 | 0-18.0 GHz |
| Straight Semi-Rigid cable connectors ..... | 0-26.5 GHz |

**VSWR:** (f = GHz)

|   | <u>Straight<br/>Cable Connectors</u> | <u>Right Angle<br/>Cable Connectors</u> |
|---|--------------------------------------|---|
| RG-316, LMR-100 cable .....                 | 1.15+.02f                            | 1.15+.03f                               |
| RG-58, LMR-195 cable .....                  | 1.15+.01f                            | 1.15+.02f                               |
| RG-142 cable .....                          | 1.15+.01f                            | 1.15+.02f                               |
| .086 Semi-Rigid cable (0 - 18 GHz) .....    | 1.07+.008f                           |   |
| .086 Semi-Rigid cable (18 - 26.5 GHz) ..... | 1.35 MAX                             |   |
| .141 Semi-Rigid cable (w/contact) .....     | 1.05+.008f                           |   |
| .141 Semi-Rigid cable (w/o contact) .....   | 1.035+.005f                          |   |

**Insertion Loss:** (dB maximum)

|   |  |
|---|--|
| Straight flexible cable connectors .....                | $0.06\sqrt{f}$ (GHz), tested at 6 GHz  |
| Right angle flexible cable connectors .....             | $0.15\sqrt{f}$ (GHz), tested at 6 GHz  |
| Straight Semi-Rigid cable connectors with contact ..... | $0.03\sqrt{f}$ (GHz), tested at 10 GHz |
| Straight Semi-Rigid cable connectors w/o contact .....  | $0.03\sqrt{f}$ (GHz), tested at 16 GHz |
| Uncabled receptacles .....                              | N/A                                    |

**Working Voltage:** (Vrms maximum)

|  | <u>Sea Level</u> | <u>70K Feet</u> |
|--|------------------|-----------------|
| RG-316, LMR-100, 195 .....   | 250              | 65              |
| RG-58, RG-142, .086 Semi-Rigid,<br>Uncabled receptacles, .141 Semi-Rigid w/o contact ..... | 335              | 85              |
| .141 Semi-Rigid with contact .....   | 500              | 125             |

**Dielectric Withstanding Voltage:** (Vrms minimum at sea level)

|  | <u>Sea Level</u> |
|--|------------------|
| Connectors for RG-316, LMR-100, 195 .....                                    | 750              |
| Connectors for RG-58, RG-142, .086 Semi-Rigid,<br>Uncabled receptacles ..... | 1000             |
| Connectors for .141 Semi-Rigid with contact .....                            | 1500             |
| Connectors for .141 Semi-Rigid w/o contact .....                             | N/A              |

**Corona Level:** (Volts minimum at 70,000 feet)

|   | <u>70K Feet</u> |
|---|-----------------|
| Connectors for RG-316, LMR-100, 195 .....   | 190             |
| Connectors for RG-58, RG-142, .086 Semi-Rigid,<br>Uncabled receptacles, .141 Semi-Rigid w/o contact ..... | 250             |
| Connectors for .141 Semi-Rigid with contact .....   | 375             |

## ELECTRICAL SPECIFICATIONS cont'd

**RF High Potential Withstanding Voltage:** (Vrms minimum, tested at 4 and 7 MHz)

|   |      |
|---|------|
| Connectors for RG-316, LMR-100, 195 .....   | 500  |
| Connectors for RG-58, RG-142, .086 Semi-Rigid,<br>.141 Semi-Rigid cable w/o contact, Uncabled receptacles ..... | 670  |
| Connectors for .141 Semi-Rigid with contact .....   | 1000 |

**Insulation Resistance:** 5000 Megohms minimum

**Contact Resistance:** (milliohms maximum)

|   | <u>Initial</u> | <u>After Environmental</u> |
|---|----------------|----------------------------|
| Center contact (straight cabled connectors<br>and Uncabled receptacles) ..... | 3.0*           | 4.0*                       |
| Center contact (right angle cabled<br>connectors) .....                       | 4.0            | 6.0                        |
| Outer Contact (all connectors) .....  | 2.0            | N/A                        |
| Braid to Body (gold plated bodies) .....                                      | 0.5            | N/A                        |

\*N/A where the cable center conductor is used as a contact

**RF Leakage:** (dB minimum, tested at 2.5 GHz)

|   |     |
|---|-----|
| Flexible cable connectors and .141 Semi-Rigid<br>connectors w/o contact .....   | -60 |
| .086 Semi-Rigid connectors and .141 Semi-Rigid connectors<br>with contact ..... | -90 |
| Uncabled receptacles .....  | N/A |

## MECHANICAL SPECIFICATIONS

- Engagement Design:** MIL-PRF-39012, Series SMA
- Durability:** 500 cycles minimum  
100 cycles minimum for .141 Semi-Rigid connectors w/o contact
- Engagement/Disengagement Force:** 2 inch-pounds maximum
- Mating Torque:** 7 to 10 inch-pounds
- Bulkhead Mounting Nut Torque:** 15 inch-pounds recommended
- Coupling Proof Torque:** 15 inch-pounds minimum
- Coupling Nut Retention:** 60-pounds minimum
- Contact Retention:**
  - 6 lbs. minimum axial force (captivated contacts)
  - 4 inch-ounce minimum torque (uncabled receptacles)

**Cable Retention: (minimum\*)**

|                                      | <u>Axial Force (lbs)</u> | <u>Torque (in-oz)</u> |
|--------------------------------------|--------------------------|-----------------------|
| Connectors for RG-316, LMR-100 ..... | 20                       | N/A                   |
| Connectors for RG-58 .....           | 40                       | N/A                   |
| Connectors for RG-142 Cabled .....   | 45                       | N/A                   |
| Connectors for .086 Semi-Rigid ..... | 30                       | 16                    |
| Connectors for .141 Semi-rigid ..... | 60                       | 55                    |
| Connectors for LMR-195 .....         | 30                       | N/A                   |

\* Or cable breaking strength, whichever is less

## ENVIRONMENTAL SPECIFICATIONS

(Meets or Exceeds the Applicable Paragraph of MIL-PRF-39012)

- Temperature Range:** -65°C to +165°C
- Thermal Shock:** MIL-STD-202, Method 107, Condition B (except +85°C high temperature)
- Corrosion:** MIL-STD-202, Method 101, Condition B
- Shock:** MIL-STD-202, Method 213, Condition I
- Vibration:** MIL-STD-202, Method 204, Condition D
- Moisture Resistance:** MIL-STD-202, Method 106

## MATERIAL SPECIFICATIONS

- Bodies:** Stainless Steel, type 303, per ASTM A 582, passivated per MIL-F-14072 (EL 300), or gold Plated per MIL-G-45204 B .00003" min.
- Contacts:** Male - Brass per ASTM B16, Gold plated\* per MIL-G-45204 (.00005" min)  
Female – Beryllium Copper per ASTM B196, Gold plated\* per MIL-G-45204 (.00005" min)
- Insulators:** PTFE Fluorocarbon per ASTM D1710 and ASTM D1457
- Gaskets:** Silicon Rubber per ZZ-R-765
- Expansion Caps:** Brass per QQ-B-613, gold plated per MIL-G-45204 .00001" min. or nickel plated per QQ-N-290
- Crimp Sleeves:** Copper per ASTM A75, gold plated per MIL-G-45204 .0001"min. or nickel per QQ-N-290 plated (.00001" min)
- Nut Retention Spring (Plugs):** Beryllium Copper per ASTM B196, un-plated
- Mounting Hardware:** Stainless Steel, type 303, Per ASTM A 582, passivated per MIL-F-14072 (EL 300), or gold plated\* per MIL-G-45204 B .00001" min.

Note: All Gold plated parts include a .00005" minimum Nickel under plated barrier layer

## MATING ENGAGEMENT FOR STAINLESS STEEL SMA SERIES PER MIL-STD-348A

1. ID TO MEET VSWR, CONTACT RESISTANCE AND INSERTION WITHDRAWAL FORCES WHEN MATED WITH A DIA. .0355-.0370 PIN.
2. GASKET IS NOT SUPPLIED WITH BRASS CONNECTORS.



## MOUNTING HOLES

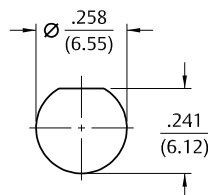


Fig 1



Fig 2

## Straight Solder Type Plug - with Contact, Captive Nut Thin Wall



| Cable Type              | VSWR & Freq. Range                            | Gold Plated Body | "A"  |
|-------------------------|---|------------------|------|
| RG-405, .086 Semi-Rigid | 1.07+.008f (0-18 GHz), 1.35 Max (18-26.5 GHz) | 141-0693-002     | .405 |
| RG-402, .141 Semi-Rigid | 1.05+.008f (0-26.5 GHz)                       | 141-0694-002     | .440 |

Assembly instructions page 16

## Straight Solder Type Plug - without Contact, Thread-on Nut Connector Interface for .141 Cable



| Cable Type              | VSWR & Freq. Range       | Gold Plated Body |
|-------------------------|--------------------------|------------------|
| RG-402, .141 Semi-Rigid | 1.035+.005f (0-26.5 GHz) | 141-0694-012     |

Assembly instructions page 15

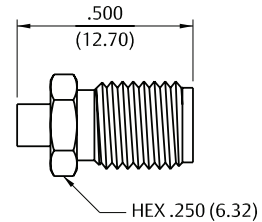
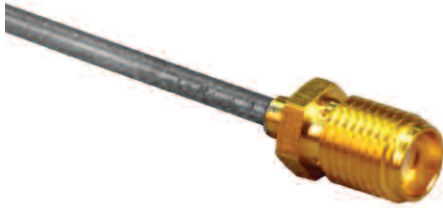
## Straight Solder Type Plug with Captivated Solderless Contact, Captive Nut and Thick Wall Interface



| Cable Type              | VSWR & Freq. Range                            | Gold Plated Body |
|-------------------------|---|------------------|
| RG-405, .086 Semi-Rigid | 1.07+.008f (0-18 GHz), 1.35 Max (18-26.5 GHz) | 141-0693-062     |
| RG-402, .141 Semi-Rigid | 1.05+.008f (0-26.5 GHz)                       | 141-0694-062     |

Assembly instructions page 17

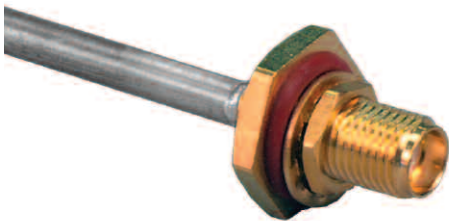
## Straight Solder Type Jack



| Cable Type              | VSWR & Freq. Range                            | Gold Plated  |
|-------------------------|---|--------------|
| RG-405, .086 Semi-Rigid | 1.07+.008f (0-18 GHz), 1.35 Max (18-26.5 GHz) | 141-0593-001 |
| RG-402, .141 Semi-Rigid | 1.05+.008f (0-26.5 GHz)                       | 141-0594-001 |

Assembly instructions page 16

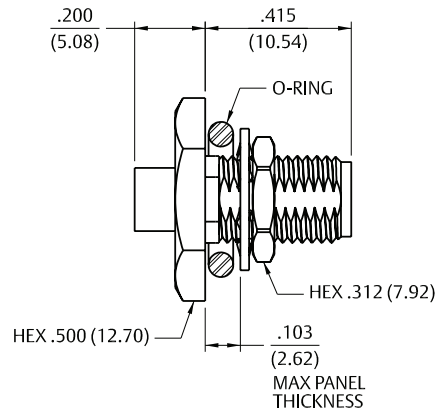
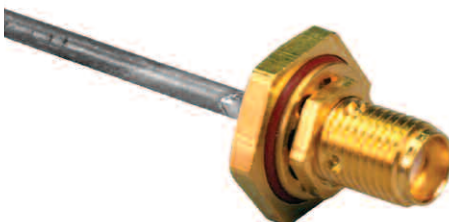
## Straight Solder Type Bulkhead Jack with O-Ring



| Cable Type              | VSWR & Freq. Range                            | Gold Plated  |
|-------------------------|---|--------------|
| RG-405, .086 Semi-Rigid | 1.07+.008f (0-18 GHz), 1.35 Max (18-26.5 GHz) | 141-0593-401 |
| RG-402, .141 Semi-Rigid | 1.05+.008f (0-26.5 GHz)                       | 141-0594-401 |

Assembly instructions page 16

## Straight Solder Type Bulkhead Jack with Captivated Solderless Contact and O-Ring



| Cable type              | VSWR & Freq. Range                            | Gold Plated  |
|-------------------------|---|--------------|
| RG-405, .086 Semi-Rigid | 1.07+.008f (0-18 GHz), 1.35 Max (18-26.5 GHz) | 141-0593-421 |
| RG-402, .141 Semi-Rigid | 1.05+.008f (0-26.5 GHz)                       | 141-0594-421 |

Assembly instructions page 17



## Straight Crimp Type Plug (3-piece) - Solder or Crimp Captivated Contact



| Cable Type                                       | VSWR & Freq. Range     | Passivated   |
|--|------------------------|--------------|
| RG-161/U, 174,188, 316, LMR-100, HPF-100, RF-100 | 1.15+.02f (0-12.4 GHz) | 141-0403-012 |
| RG-188 DS, RG-316 DS                             | 1.15+.02f (0-12.4 GHz) | 141-0404-012 |
| RG-58/U, 141, 303, LMR-195, HPF-195, RF-195      | 1.15+.01f (0-12.4 GHz) | 141-0407-012 |
| RG-55/U, 142, 223, 400                           | 1.15+.01f (0-12.4 GHz) | 141-0408-012 |

Assembly instructions page 14

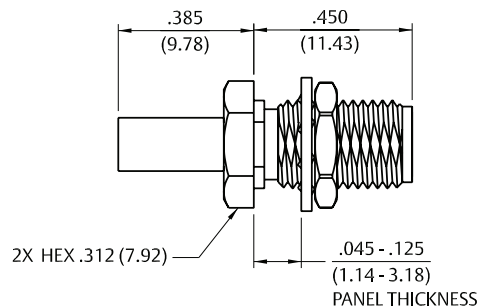
## Right Angle Crimp Type Plug - Captivated Contact



| Cable Type             | VSWR & Freq. Range     | Passivated   | "A"  | "B"  | "C"  | "D"  |
|------------------------|------------------------|--------------|------|------|------|------|
| RG-161/U, 174,188, 316 | 1.15+.03f (0-12.4 GHz) | 141-0403-102 | .652 | .527 | .593 | .467 |
| RG-188 DS, RG-316 DS   | 1.15+.03f (0-12.4 GHz) | 141-0404-112 | .652 | .527 | .593 | .467 |
| RG-58/U, 141, 303      | 1.15+.02f (0-12.4 GHz) | 141-0407-102 | .636 | .519 | .596 | .471 |
| RG-55/U, 142, 223, 400 | 1.15+.02f (0-12.4 GHz) | 141-0408-102 | .636 | .519 | .596 | .471 |

Assembly instructions page 18

## Straight Crimp Type Bulkhead Jack (3-piece) - Solder or Crimp Captivated Contact



| Cable Type             | VSWR & Freq. Range     | Passivated   |
|------------------------|------------------------|--------------|
| RG-161/U, 174,188, 316 | 1.15+.02f (0-12.4 GHz) | 141-0303-412 |
| RG-188 DS, RG-316 DS   | 1.15+.02f (0-12.4 GHz) | 141-0304-412 |
| RG-58/U, 141, 303      | 1.15+.01f (0-12.4 GHz) | 141-0307-412 |
| RG-55/U, 142, 223, 400 | 1.15+.01f (0-12.4 GHz) | 141-0308-412 |

Assembly instructions page 14

## Right Angle PC Mount Jack Receptacle



| Freq. Range | Gold Plated  |
|-------------|--------------|
| 0-18 GHz    | 141-0701-301 |

Mounting hole layout Figure 2 on page 6

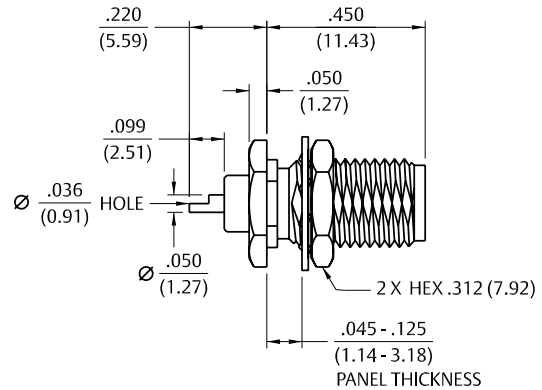
## Straight PC Mount Jack Receptacle



| Freq. Range | Gold Plated  |
|-------------|--------------|
| 0-18 GHz    | 141-0701-201 |

Mounting hole layout Figure 2 on page 6

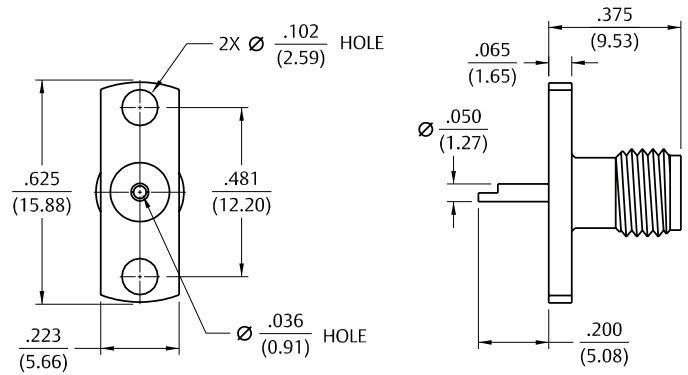
## Rear Mount Bulkhead Jack Receptacle



| Freq. Range | Passivated   |
|-------------|--------------|
| 0-18 GHz    | 141-0701-402 |

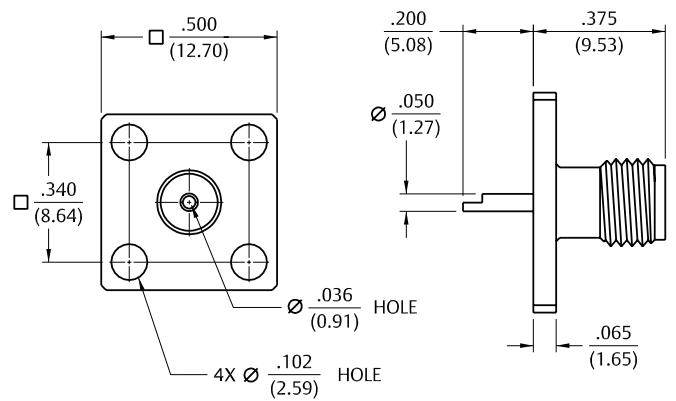
Mounting hole layout Figure 1 on page 6

## 2-Hole Flange Mount Jack Receptacle - Flush Dielectric



| Freq. Range | Passivated   |
|-------------|--------------|
| 0-18 GHz    | 141-0701-602 |

## 4-Hole Flange Mount Jack Receptacle - Flush Dielectric



| Freq. Range | Passivated   |
|-------------|--------------|
| 0-18 GHz    | 141-0701-612 |

## 2-Hole Flange Mount Jack Receptacle - Extended Dielectric



| VSWR & Freq. Range   | Passivated   |
|----------------------|--------------|
| 1.15+.02f (0-18 GHz) | 141-0701-622 |

## 4-Hole Flange Mount Jack Receptacle - Extended Dielectric



| VSWR & Freq. Range   | Passivated   |
|----------------------|--------------|
| 1.15+.02f (0-18 GHz) | 141-0701-632 |

## ASSEMBLY TOOLS

### Semi-Rigid Assembly Tools

Accurate assembly of the Semi-Rigid Cabled Connectors is obtained with the tools listed below. Industry standard devices are used if possible for customer convenience and tool compatibility.



| Item | Part No.     | Description  |
|------|--------------|--|
| A    | 140-0000-962 | Soldering Vise (does not include inserts (B) or stop screw (H) ) |
| B    | 140-0000-964 | Semi-Rigid Cable Clamp Inserts for .086" OD Cable                |
|      | 140-0000-965 | Semi-Rigid Cable Clamp Inserts for .141" OD Cable                |
| C    | 140-0000-973 | Soldering Mating Fixture for SMA Jack Connectors                 |
| D    | 140-0000-975 | Complete Center Conductor Pointing Tool for .086" OD Cable       |
|      | 140-0000-976 | Complete Center Conductor Pointing Tool for .141" OD Cable       |
| E    | 140-0000-977 | Bushing for .086" OD Cable Conductor Pointing Tool               |
|      | 140-0000-978 | Bushing for .141" OD Cable Conductor Pointing Tool               |
| F    | 140-0000-979 | Blade for Center Conductor Pointing Tool                         |
| G    | 140-0000-980 | Frame for Center Conductor Pointing Tool                         |
| H    | 140-0000-981 | Stop Screw for Semi-Rigid Cable Soldering Vise                   |
| I    | 140-0000-982 | Soldering Mating Fixture for SMA Plug Connectors                 |

## ASSEMBLY INSTRUCTIONS

### SMA Type Straight Plugs, Straight Jacks, and Straight Bulkhead Jacks for Flexible Cable - Crimp or Solder Contacts

- Identify connector parts. (3 piece parts—except bulkhead)
- Strip cable to dimensions shown. Do not nick braid or center conductor. Tin center conductor if contact will be solder attached. Do not tin center conductor if contact is to be crimp attached. When stripping LMR-100 low loss cable, remove foil back to where cable jacket is stripped. A wire stripper of correct size is recommended for this step. Slide heat shrink (as applicable) and crimp sleeve onto jacket of cable.
- Assemble contact onto cable as shown.  
**Solder Attachment:** Solder contact to center conductor through solder hole using .020 (0.51) diameter solder. Use a minimum amount of solder for a good joint.  
**Crimp Attachment:** Crimp contact to center conductor using Johnson® Hand Tool 144-0000-910, setting #2, with positioner 141-0000-907. Crimp location should be centered between end of contact and X-hole. Crimp attachment to solid center conductor cables is not recommended.
- Flare braid and slide body assembly over contact and under braid. Then seat body assembly firmly onto contact. The cable may have to be held in a clamping fixture. Arrange braid uniformly around crimp stem. Slide crimp sleeve forward and crimp using recommended crimp tool. Slide heat shrink forward and shrink (as applicable).



| Cable Type                       | Part No.     | Crimp Hex   |
|----------------------------------|--------------|-------------|
| RG-316/U, 161, 174, 188; LMR-100 | 141-0303-412 | .128 (3.25) |
| RG-316 DS, 188 DS                | 141-0304-412 | .151 (3.83) |
| RG-58/U, 141, 303                | 141-0307-412 | .213 (5.41) |
| RG-55/U, 142, 223, 400           | 141-0308-412 | .213 (5.41) |
| RG-316/U, 161, 174, 188; LMR-100 | 141-0403-012 | .128 (3.25) |
| RG-316 DS, 188 DS                | 141-0404-012 | .151 (3.83) |
| RG-58/U, 141, 303                | 141-0407-012 | .213 (5.41) |
| RG-55/U, 142, 223, 400           | 141-0408-012 | .213 (5.41) |

## SMA Solder Type Straight Plugs for Semi-Rigid Cable

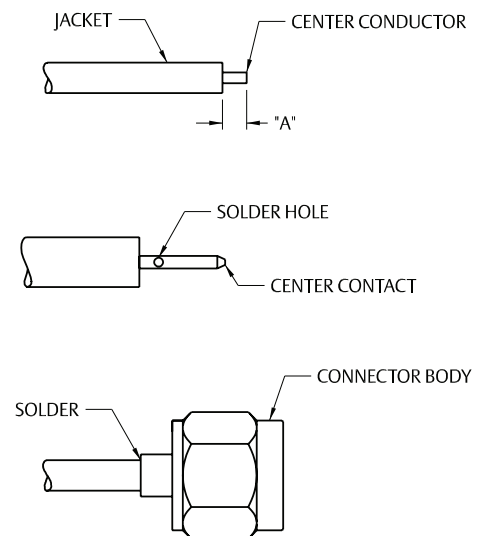
1. Identify connector parts. (2 piece parts)
2. Strip cable to dimensions shown. Do not nick center conductor. Bevel the cable center conductor per contact detail of SMA interface on page 6. Slide coupling nut onto cable as shown.
3. Insert cable into body making sure cable jacket is flush with front of body. Solder body to cable. Use a minimum amount of heat to minimize cable insulation movement. Trim expanded insulation flush with front of body or fixture body and cable during soldering to prevent cable insulation expansion.
4. Thread coupling nut over body.



| Cable Type                 | Part No.     |
|----------------------------|--------------|
| RG-402/U (.141 Semi-Rigid) | 141-0694-012 |

## SMA Solder Type Straight Jacks, Straight Plugs, and Straight Bulkhead Jacks for Semi-Rigid Cable

1. Identify connector parts. (2 piece parts)
2. Strip cable to dimensions shown. Do not nick center conductor.
3. Place center contact on center conductor making sure contact bottoms against cable insulation. Solder center conductor to center contact through solder hole. Solder must not be allowed to run on outside of contact. Use a minimum amount of solder for a good joint. **.020 (0.51) diameter solder is recommended.** Trim excess insulation.
4. Insert contact and cable into body assembly making sure cable is bottomed against insulator in body. Solder body to cable. Use a minimum amount of heat to minimize cable insulation movement.

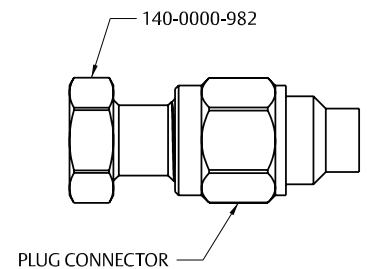
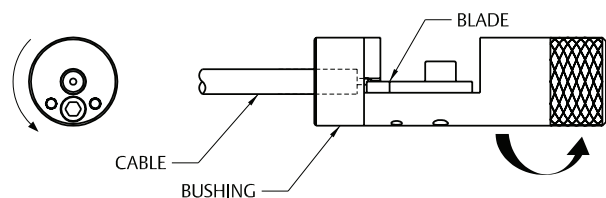
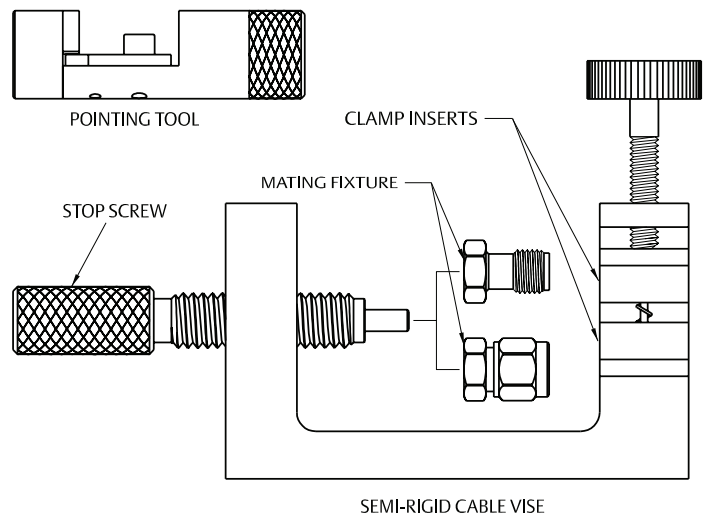


| Cable Type                 | Part No.     | "A"         |
|----------------------------|--------------|-------------|
| RG-405/U (.086 Semi-Rigid) | 141-0593-001 | .070 (1.78) |
|                            | 141-0593-401 | .070 (1.78) |
|                            | 141-0693-002 | .070 (1.78) |
| RG-402/U (.141 Semi-Rigid) | 141-0594-001 | .085 (2.16) |
|                            | 141-0594-401 | .085 (2.16) |
|                            | 141-0694-002 | .085 (2.16) |



## SMA Straight Solder Type for Semi-Rigid Cable

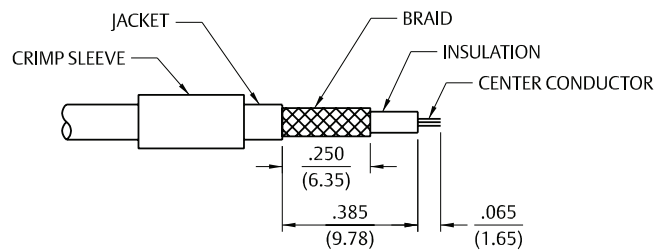
1. Identify the connector (plug or jack) and tools
2. Strip the cable jacket and dielectric to dimension shown. Do not nick the center conductor.
3. Bevel the entire diameter on the end of the cable center conductor until the point resembles the appropriate dimensional profile. This operation can be accomplished effectively by using the recommended center conductor pointing tool as described in step 4.
4. Insert the stripped cable into the bushing of the appropriate pointing tool until the center conductor just touches the blade. While maintaining light pressure on the center conductor against the blade, turn the tool in a counter-clockwise fashion as viewed from the bushing end of the tool. Continue cutting the center conductor point until the cable jacket bottoms out inside the bushing.
5. Attach the appropriate soldering mating fixture to the connector and tighten to a maximum of 8 inch pounds of torque.
6. Clean all debris from the prepared cable and insert the cable into the connector, making sure that the cable jacket bottoms out against the internal shoulder of the connector body.
7. Insert the stop screw into the mating fixture. Clamp the cable and fixtured connector assembly securely in the soldering vise. Solder the connector body to the cable as shown, while insuring the cable dielectric expansion does not move the assembly. Allow the assembly to cool before removing the connector from the fixture



| Cable Type                 | Part No.     |
|----------------------------|--------------|
| RG-405/U (.086 Semi-Rigid) | 141-0593-421 |
|                            | 141-0693-062 |
| RG-402/U (.141 Semi-Rigid) | 141-0594-421 |
|                            | 141-0694-062 |

## SMA Crimp Type Right Angle Plugs for Flexible Cable

1. Identify connector parts. (3 piece parts)
2. Strip cable to dimensions shown. Do not nick braid or center conductor. When stripping LMR-100 low loss cable, remove foil back to where cable jacket is stripped. A wire stripper of correct size is recommended for this step. Twist stranded center conductor into tight bundle and tin (optional). Slide crimp sleeve onto cable as shown.
3. Flare braid and slide cable into body making certain that the cable insulation bottoms on center contact. Solder center conductor to contact through the rear access port. Use a minimum amount of solder for a full fillet joint. **.020 (0.51) diameter solder is recommended.**
4. Arrange braid uniformly around crimp stem. Slide crimp sleeve over braid and crimp securely using recommended crimp tool. Place expansion cap in access port and seat with .187 (4.75) diameter flat punch. Shrink heat shrink tubing over crimp sleeve if applicable.



| Cable Type                       | Part No.     | Crimp Hex   |
|----------------------------------|--------------|-------------|
| RG-316/U, 161, 174, 188; LMR-100 | 141-0403-102 | .128 (3.25) |
| RG-316 DS, 188 DS                | 141-0404-112 | .151 (3.83) |
| RG-58/U, 141, 303                | 141-0407-102 | .213 (5.41) |
| RG-55/U, 142, 223, 400           | 141-0408-102 | .213 (5.41) |

## COMPETITOR CROSS REFERENCE

| JOHNSON      | HUBER SUHNER   | AMP/TYCO   | RADIAL     | AMPHENOL       | AEP           |
|--------------|----------------|------------|------------|----------------|---------------|
| 141-0403-012 | 11SMA-50-2-55C | 225532-4   | R125072001 | 901-9511-3SFC  | 9101-9573-03  |
| 141-0404-012 | 11SMA-50-2-56C |            | R125072081 | 901-9511-12SFC | 9101-9573-19  |
| 141-0407-012 | 11SMA-50-3-55C | 225532-1   | R125075001 | 901-9511-2SF   | 9101-9573-06  |
| 141-0408-012 | 11SMA-50-3-56C | 225532-3   | R125076001 | 901-9511-1SF   | 9101-9573-01  |
| 141-0403-102 | 16SMA-50-2-55C | 225609-4   | R125172001 | 901-9531-3SF   | 9043-9523-03  |
| 141-0404-102 | 16SMA-50-2-56C |            | R125174011 | 901-9531-12SF  | 9043-9523-19  |
| 141-0407-102 | 16SMA-50-3-55C | 225609-1   | R125175001 | 901-9531-2SF   | 9043-9523-06  |
| 141-0408-102 | 16SMA-50-3-56C | 225609-3   | R125176001 | 901-9531-1     | 9043-9523-01  |
| 141-0693-002 | 11SMA-50-2-65  |            | R125052002 | 901-9201-2A    | 9401-1083-010 |
| 141-0694-002 | 11SMA-50-3-65  |            |            |                | 9401-1083-109 |
| 141-0694-012 | 11SMA-50-3-64  |            | R125054002 | 901-9201-1A    | 9301-1063-009 |
| 141-0693-062 | 11SMA-50-2-65  |            | R125052002 | 901-9723       | 9401-1583-010 |
| 141-0694-062 | 11SMA-50-3-65  |            | R125057002 | 901-9808       | 9401-1583-109 |
| 141-0303-412 |                | 225608-4   | R125312121 | 901-9610-3SF   | 9130-9573-03  |
| 141-0304-412 |                | 1-225608-1 | R125313121 | 901-9610-12SF  | 9130-9573-19  |
| 141-0307-412 |                |            | R125314121 | 901-9610-2SF   | 9130-9573-06  |
| 141-0308-412 |                | 225608-3   | R125315121 | 901-9610-1SF   | 9130-9573-01  |
| 141-0593-001 |                |            | R125222000 | 901-9202-2A    | 9402-1533-010 |
| 141-0594-001 |                |            | R125225000 | 901-9202-1A    | 9402-1583-009 |
| 141-0593-401 | 24SMA-50-2-41  |            | R125326000 |                | 9453-1083-010 |
| 141-0594-401 | 24SMA-50-3-41  |            | R125325000 |                | 9453-1083-009 |
| 141-0593-421 | 24SMA-50-2-41  |            | R125326000 |                | 9453-1583-010 |
| 141-0594-421 | 24SMA-50-3-41  |            | R125325000 |                | 9453-1083-009 |
| 141-0701-201 | 82SMA-50-0-1   | 221789-1   | R125426000 | 901-144        | 9650-1113-000 |
| 141-0701-301 | 85SMA-50-0-1   | 221790-1   | R125680000 | 901-143        | 9647-1513-000 |
| 141-0701-402 | 22SMA-50-0-54  | 228496-1   | R125553001 | 901-9211-SF    | 9412-9113-000 |
| 141-0701-602 | 23SMA-50-0-61  | 221641-1   | R125454001 |                | 9408-9113-000 |
| 141-0701-612 | 23SMA-50-0-51  | 221640-1   | R125403001 | 901-9215-SF    | 9404-9113-000 |
| 141-0701-622 | 23SMA-50-0-63  |            | R125464274 | 901-9000-CCSF  | 9008-9113-000 |
| 141-0701-602 | 23SMA-50-0-53  |            | R125415275 | 901-9204-CCSF  | 9004-9113-000 |