ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Virginia Panel Corporation 610104101* at our website: ***Click HERE***

ASSEMBLY, INSTALLATION, AND REMOVAL OF CONTACTS AND MODULES

FOR 50 OHM COAXIAL CONTACTS AND MODULES

INDEX *(CLICK TO NAVIAGTE TO PAGE)*

PAGE

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

1 PART #610 104 101 FOR RG174 OR RG316

3 PART #610 104 129 FOR RG59

5 PART #610 104 131 FOR RG58

7 RECEIVER CONTACT INSTALLATION & REMOVAL

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

8 PART #610 103 103 FOR RG174 OR RG316

10 PART #610 103 132 FOR RG59

12 PART #610 103 104 FOR RG58

14 ITA CONTACT INSTALLATION & REMOVAL

MODULES & SPECIFICATIONS

15 90 SERIES MODULE INSTALLATION & REMOVAL

16 CROSS REFERENCE TABLES

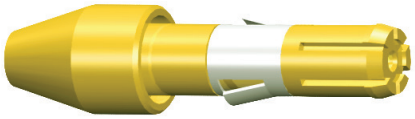
17 CONTACT PERFORMANCE SPECIFICATIONS

18 VSWR CHART & GRAPH

Please note that any printed or downloaded User Manuals or Procedure Sheets may not reflect the most current revisions. The information contained in these materials is subject to change. For the most current information available, visit www.vpc.com.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 101 for RG174 or RG316



Dimensions shown: [millimeters]
inches

TOOLS REQUIRED

Coaxial Receiver and ITA Crimp Tool Kit, Part # 910 102 102
Contains:
- MS 31 Crimp Tool, Part # 910 101 102
- Female Signal Contact Locator Die, Part # 910 104 119
- Shield Conductor Forming Tool, Part # 910 121 104

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Female Signal Contact Locator Die, Part # 910 104 119 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.030". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Slide nut onto wire (**Figure C**).

2. Strip wire and dielectric (**Figure C**).

3. Unravel braid and fold back over outer insulation. Slide follower over dielectric (**Figure D**).

4. Slide rear insulator assembly over conductor wire (**Figure E**) and crimp using the crimp tool and locator die. The back of the center conductor should be butted against the dielectric (**Figure F**). Pull gently on contact to check crimp.

Continued on next page...

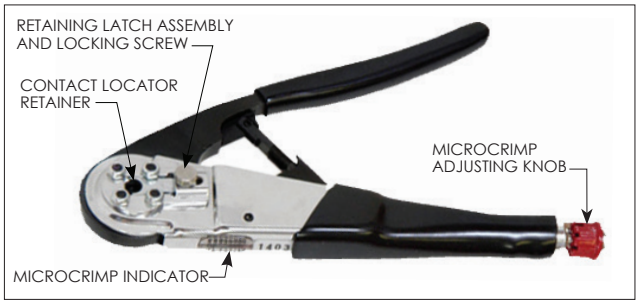


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

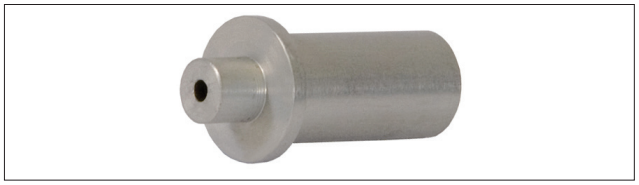


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

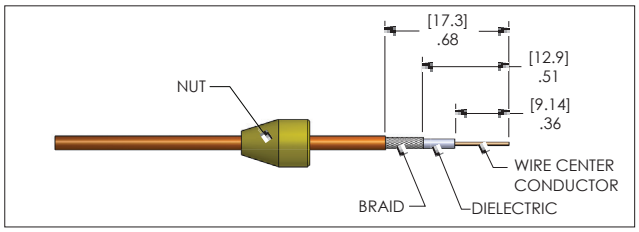


Figure C. Install nut and strip wire.

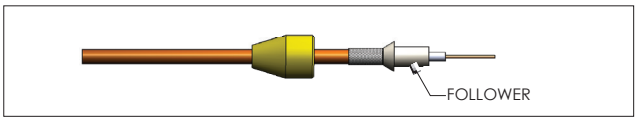


Figure D. Fold braid back. Install follower.

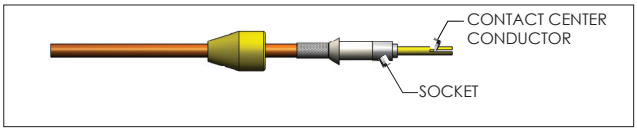


Figure E. Install rear insulator assembly.

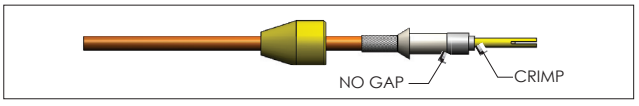


Figure F. Crimp center conductor.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 101 for RG174 or RG316

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

5. Slide front insulator over crimped contact until it bottoms out. Turn the braid back toward the shield conductor laying it against the cone on the back of the follower. Trim excess braid flush with the top of the cone. (**Figure G**).

6. Slide shield conductor over assembly. (**Figure H**)

7. Screw nut onto the back of the shield to complete the assembly (**Figure I**). The nut must hold a 0.28" [7.11 mm] minimum dimension from the retaining clip, or it will not lock into the module.

8. After assembly, check mating force using a 50 Ohm Coaxial ITA Contact, Part # 610 103 103. A mating force greater than 2 lbs [0.91 kg] can cause excessive receiver handle force and ITA bowing. A mating force in excess of 2 lbs [0.91 kg] can be adjusted by using the Shield Conductor Forming Tool, Part # 910 121 104 (**Figure J**). Insert the connector so that half of the coax shield slots are still showing and squeeze the tool handle. The tool should be used once each time in three different positions (approx. equally spaced) for best results.

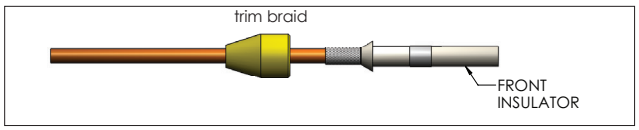


Figure G. Install front insulator and trim braid.

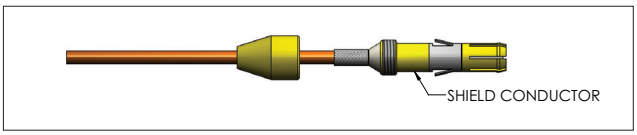


Figure H. Install shield conductor.

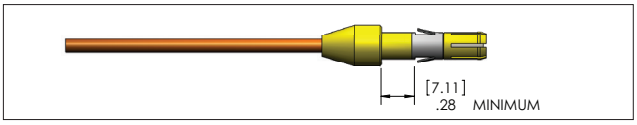


Figure I. Screw nut onto shield conductor.

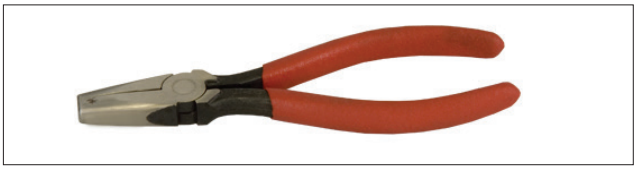
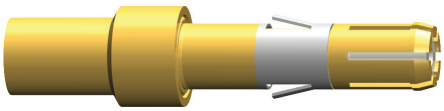


Figure J. Shield Conductor Forming Tool, Part # 910 121 104.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 129 FOR RG59



Dimensions shown: [millimeters]
inches

TOOLS REQUIRED

MS 31 Crimp Tool, Part # 910 101 102
Hex Crimp Tool, Part # 910 101 108
Female Signal Contact Locator Die, Part # 910 104 119
Shield Conductor Forming Tool, Part # 910 121 104

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Female Signal Contact Locator Die, Part # 910 104 119 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.040". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Slide shrink tubing onto wire and strip (**Figure C**).

2. Slide the crimp ring over the braid. Unravel braid and fold back over the crimp ring (**Figure D**).

3. Strip dielectric (**Figure D**).

4. Slide rear insulator and conductor contact assembly over the conductor wire and crimp using thecrimp tool and locator die. The back of the center conductor should be flush with the dielectric (**Figure E**).

5. Slide the front insulator over the crimped contact until it stops flush with the rear insulator (**Figure F**).

6. Slide the shield conductor over the center conductor and wire assembly (**Figure G**).

Continued on next page...

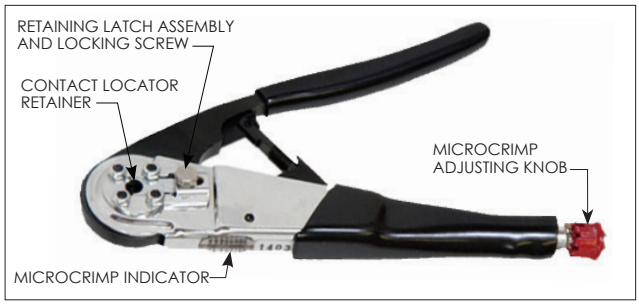


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

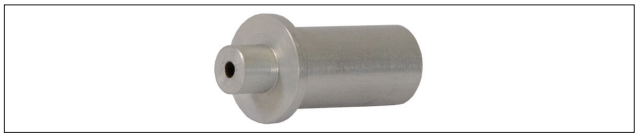


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

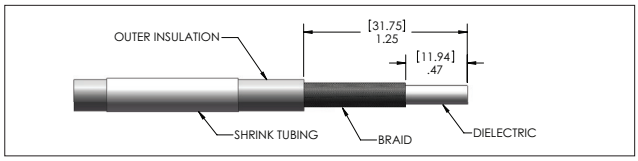


Figure C. Strip wire and install tubing.

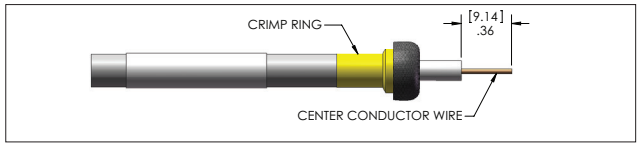


Figure D. Fold braid back and strip dielectric.

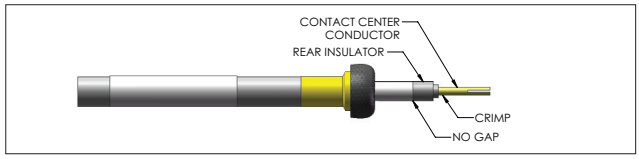


Figure E. Make sure there is no gap between the center conductor and the dielectric.

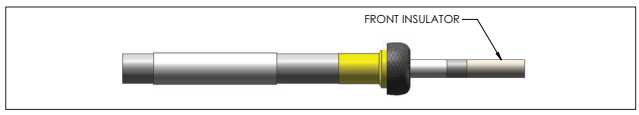


Figure F. Install insulator.

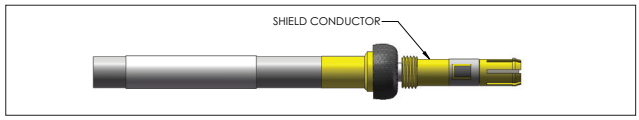


Figure G. Install shield conductor.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 129 FOR RG59

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

7. Turn the braid back toward the shield conductor laying it on top of the threaded portion of the shield conductor. No strands of the braid should extend beyond the threaded portion (**Figure H**). Trim braid if necessary.

8. Slide the crimp ring into position over the braid and crimp in two places using Hex Crimp Tool, Part # 910 101 108, in Hex position C for the smaller portion of the crimp ring and position A for the larger portion of the crimp ring. The crimp ring must hold 0.28" [7.11 mm] minimum dimension from the retaining clip or it will not lock into the module (**Figure J**).

9. Slide the shrink tubing over the exposed braid and the "C" position crimp and shrink (**Figure K**).

10. After assembly, check the mating force using a 50 Ohm Coaxial ITA contact, Part # 610 103 132. A mating force greater than 2 lbs [0.91 kg] can cause excess receiver handle force and ITA bowing. If the mating force is greater than 2 lbs [0.91 kg] adjust the shield conductor using the Shield Conductor Forming Tool, Part # 910 121 104 (**Figure L**). Insert the contact so that half of the coax shield slots are still showing and squeeze the tool handle. The tool should be used once each time in three different positions (approx. equally spaced) for best results.

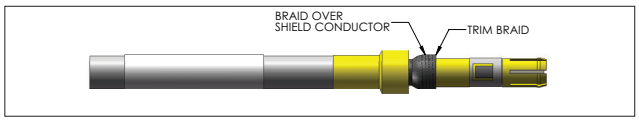


Figure H. Fold braid back over shield conductor.

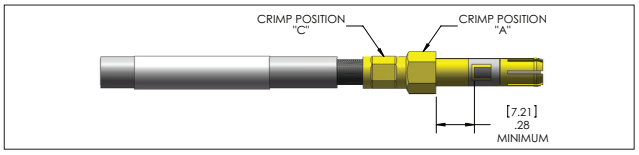


Figure J. Crimp contact.

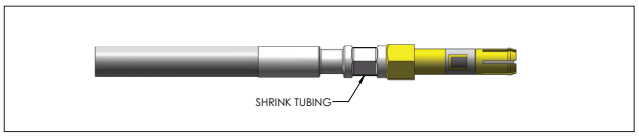


Figure K. Install shrink tubing.

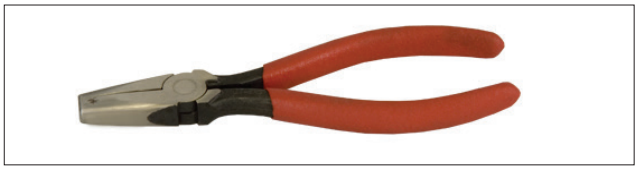
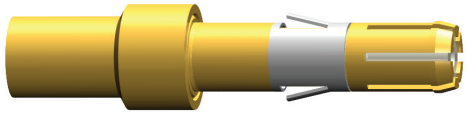


Figure L. Shield Conductor Forming Tool, Part # 910 121 104.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 131 FOR RG58



Dimensions shown: [millimeters]
inches

TOOLS REQUIRED

MS 31 Crimp Tool, Part # 910 101 102
Hex Crimp Tool, Part # 910 101 108
Female Signal Contact Locator Die, Part # 910 104 119
Shield Conductor Forming Tool, Part # 910 121 104

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Female Signal Contact Locator Die, Part # 910 104 119 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.040". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Strip wire (**Figure C**).

2. Slide crimp ring onto wire (**Figure C**).

3. Unravel braid and fold back over outer insulation (**Figure D**). Slide shrink tubing over dielectric (**Figure D**) and shrink.

4. Slide rear insulator over conductor wire (**Figure E**) and crimp using the crimp tool and locator die. The back of the center conductor should be butted against the dielectric (**Figure F**). Pull gently on contact to check crimp.

Continued on next page...

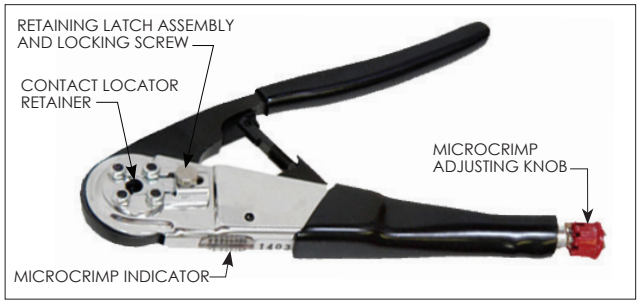


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

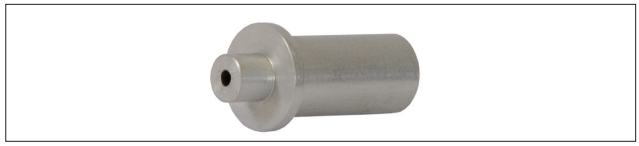


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

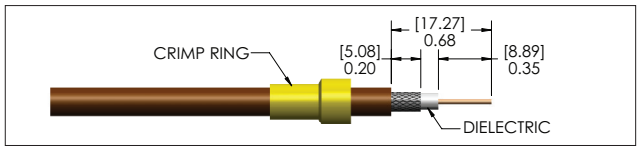


Figure C. Strip wire.

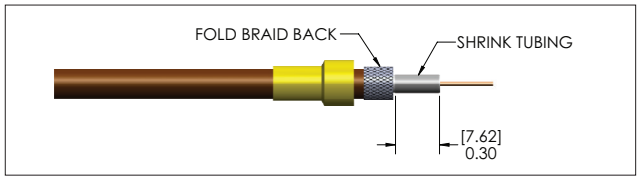


Figure D. Fold braid back and install tubing.

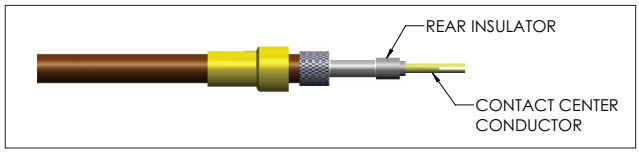


Figure E. Install rear insulator.

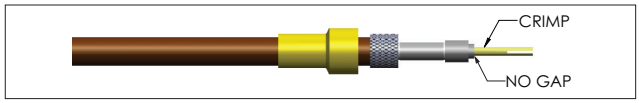


Figure F. Make sure there is no gap between the center conductor and the dielectric.

RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 131 FOR RG58

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

5. Slide front insulator over crimped contact until it bottoms (**Figure G**). Slide the shield conductor over the center conductor assembly (**Figure H**).

6. Turn the braid back toward the shield conductor laying it on top of the threaded portion of the shield conductor. No strands of the braid should extend beyond the threaded portion (**Figure J**). Trim braid if necessary.

7. Push crimp ring into position over braid and crimp (**Figure K**) using the Hex Crimp Tool, Part # 910 101 108, in Hex position B for the smaller portion of the crimp ring and Hex position A for the larger portion of the crimp ring. The crimp ring must hold 0.28" [7.11 mm] minimum dimension from retaining clip or it will not lock in the module.

8. After assembly, check mating force using a 50 OHM Coaxial ITA Contact, Part # 610 103 104. A mating force greater than 2 lbs [0.91 kg] can cause excessive Receiver handle force and ITA bowing. A mating force in excess of 2 lbs [0.91 kg] can be adjusted by using the Shield Conductor Forming Tool, Part # 910 121 104 (**Figure L**). Insert the connector so that half of the coax shield slots are still showing and squeeze the tool handle. The tool should be used once each time in three different positions (approx. equally spaced) for best results.

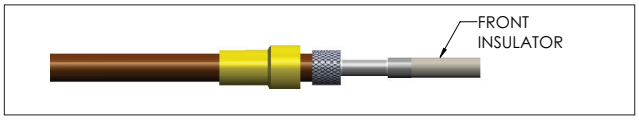


Figure G. Install front insulator.

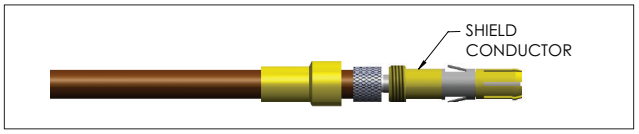


Figure H. Install shield conductor.

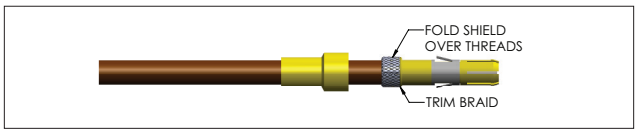


Figure J. Fold braid over shield conductor.

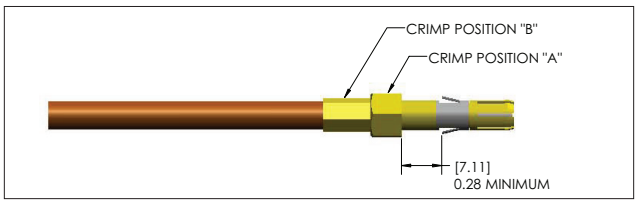


Figure K. Crimp contact.

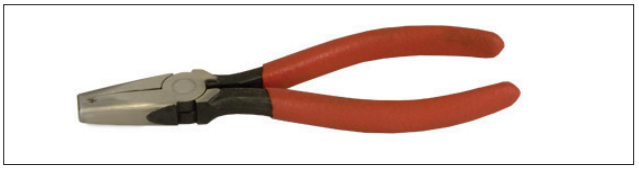


Figure L. Shield Conductor Forming Tool, Part # 910 121 104.

RECEIVER CONTACT INSTALLATION AND REMOVAL

PART # 610 104 101 / 610 104 129 / 610 104 131

TOOLS REQUIRED
Power/Coaxial Receiver Extraction Tool, Part # 910 112 101

CONTACT INSTALLATION INSTRUCTIONS

1. Assemble the contact to the respective wire.
   NOTE: For more information concerning the process of crimping the contact please see contact assembly instructions in this User Manual.

2. Insert the terminated contact into the back (wiring side) of the assembled module. The contact can only go into one side. Once in place, pull the wire slightly to ensure that the contact is seated.

CONTACT REMOVAL INSTRUCTIONS

1. Remove the module from the receiver frame.
   NOTE: For more information concerning the process of removing the module from the receiver frame, see module installation and removal instructions in this User Manual.

2. Place the Power/Coaxial Receiver Extraction Tool, Part # 910 112 101 (**Figure A**), over the contact to be removed/replaced. Use care to keep the tool perpendicular to the surface of the module, otherwise the tool or the contact could be bent.

3. Once the extraction tool is seated and the retaining ring tabs on the contact are compressed, push the tool into the module (**Figure B**). The contact will be pushed out of the rear of the module.

DO NOT DEPRESS THE PLUNGER ON THE BACK OF THE EXTRACTION TOOL UNTIL THE TIP OF THE EXTRACTION TOOL HAS FULLY SEATED INTO THE MODULE AND COMPRESSED THE RETAINING RING TABS ON THE CONTACT.

NOTE: The process shown here uses standard/90 series modules. The same process is used for modules from other series.

NOTE: If you are using a hybrid module, you may need to reference the User Manual for the other contact type for extraction instructions.

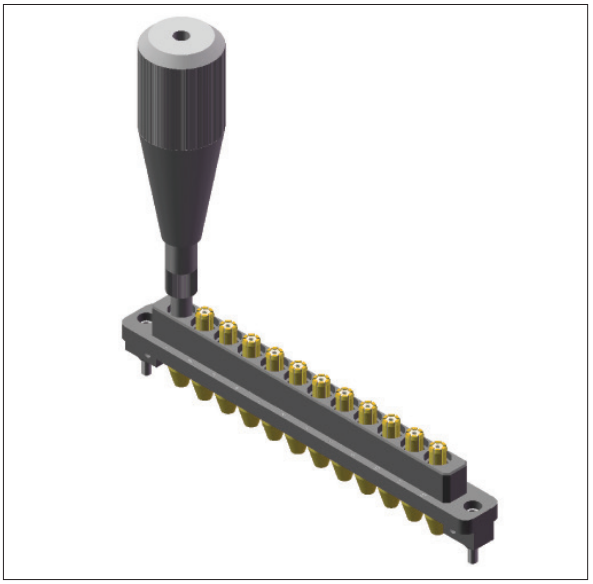


Figure A. Power/Coaxial Receiver Extraction Tool, Part # 910 112 101.

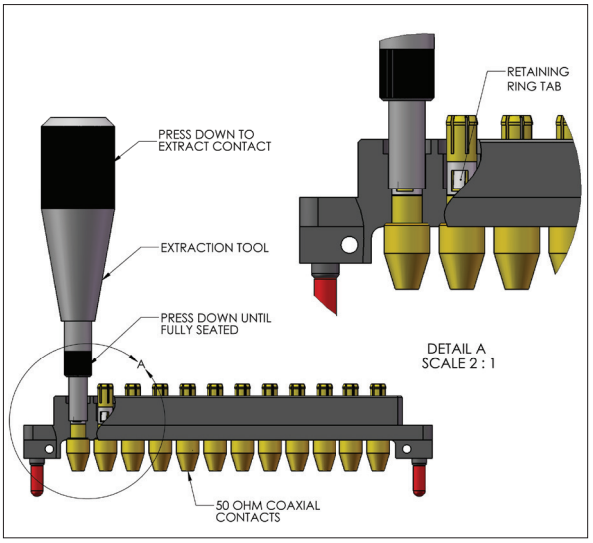
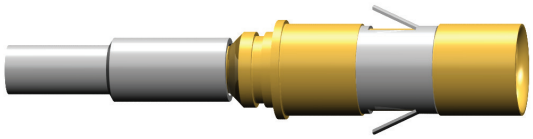


Figure B. Take care to keep the tool perpendicular to prevent bent pins.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 103 FOR RG174 OR RG316



Dimensions shown: [millimeters]
inches

TOOLS REQUIRED

Coaxial 50 OHM Receiver and ITA Crimp Tool Kit, Part # 910 102 102
Contains:
- MS 31 Crimp Tool, Part # 910 101 102
- Male Signal Contact Locator Die, Part # 910 104 117
- Insulator Insertion Tool, Part # 910 113 101
- Hex Crimp Tool, Part # 910 101 104

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Male Signal Contact Locator Die, Part # 910 104 117 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.030". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Slide crimp ring and shield conductor onto wire (**Figure C**).

2. Strip wire (**Figure C**).

3. Unravel braid and fold back over outer insulation (**Figure D**).

4. Slide rear insulator over dielectric until it stops against the braid (**Figure D**).

5. Slide the front insulator with contact center conductor over the center conductor wire (**Figure E**) and crimp using the crimp tool and locator die.

6. Slide rear insulator forward pressing it on front insulator until parts are firmly together (**Figure F**).

7. Fold braid back toward the contact center conductor (**Figure F**).

Continued on next page...

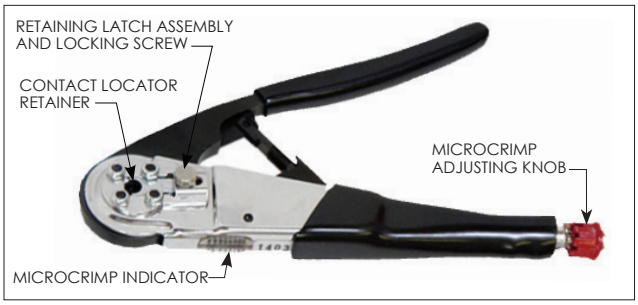


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

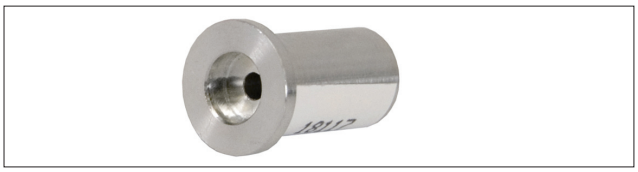


Figure B. Male Signal Contact Locator Die, Part # 910 104 117.

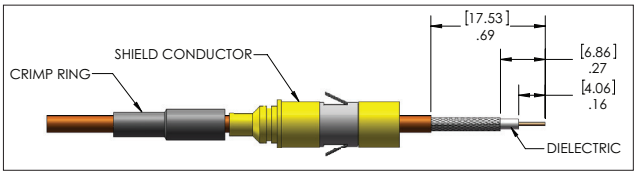


Figure C. Install crimp ring and shield conductor.

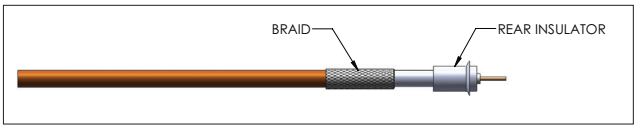


Figure D. Fold braid back and install rear insulator.

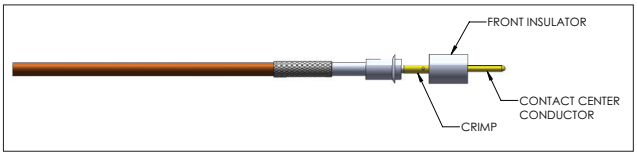


Figure E. Install front insulator with signal contact.

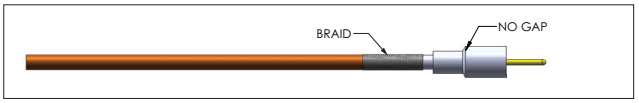


Figure F. Make sure there is no gap between the rear and front insulator.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 103 FOR RG174 OR RG316

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

8. Slide the shield conductor forward over the braid far enough that the braid can be pulled out from under the shield conductor.

9. Using the Insulator Insertion Tool, Part # 910 113 101 (**Figure G**), press the insulator into the shield conductor until Surface "A" of the tool touches Surface "B" of the shield conductor (**Figure H**).

10. Fold the braid over the shield conductor (**Figure J**).

11. Slide the crimp ring into position over the braid and crimp in two places (**Figure K**) using Hex Crimp Tool, Part # 910 101 104 (**Figure L**). Position A should be used for the larger portion of the crimp ring and Position C should be used for the smaller portion of the crimp ring.

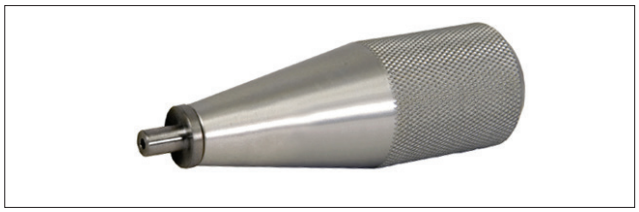


Figure G. Insulator Insertion Tool, Part # 910 113 101.

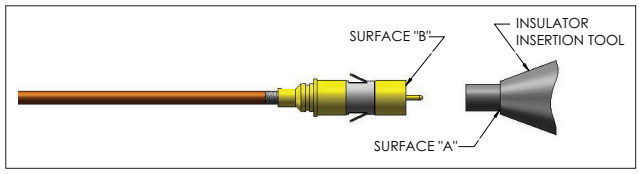


Figure H. Insulator insertion.

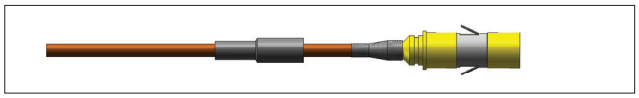


Figure J. Fold braid back over shield conductor.

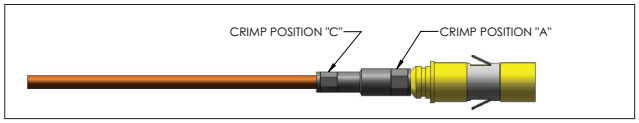


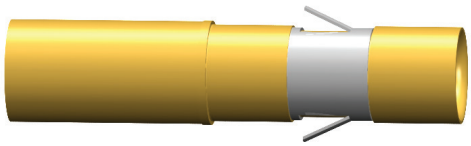
Figure K. Crimp contact.



Figure L. Hex Crimp Tool, Part # 910 101 104.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 132 FOR RG59



TOOLS REQUIRED

Coaxial Crimp Tool Kit for RG 55-62, Part # 910 102 103

Contains:
- MS 31 Crimp Tool, Part # 910 101 102
- Male Signal Contact Locator Die, Part # 910 104 117
- Insulator Insertion Tool, Part # 910 113 101
- Hex Crimp Die for RG59-62, Part # 910 101 113

Dimensions shown: [millimeters]
inches

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Male Signal Contact Locator Die, Part # 910 104 117 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.040". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Cut 2.50" [14.2 mm] length of 0.375" [9.5 mm] diameter shrink tubing.

2. Slide shrink tubing and crimp ring on the wire (**Figure C**).

3. Strip outer insulation (**Figure C**).

4. Unravel braid and fold back over outer insulation (**Figure D**).

5. Slide shield conductor and rear insulator over the dielectric (**Figure D**).

6. Strip dielectric (**Figure D**).

7. Slide the front insulator with signal contact over the conductor wire and crimp (**Figure E**) using the crimp tool and locator die.

8. Slide the rear insulator forward pressing it into the front insulator until parts are firmly together (**Figure F**).

Continued on next page...

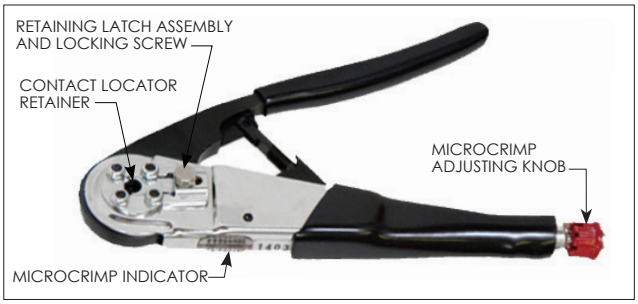


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

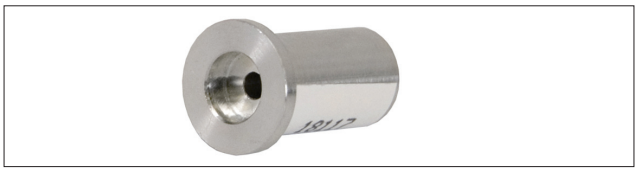


Figure B. Male Signal Contact Locator Die, Part # 910 104 117.

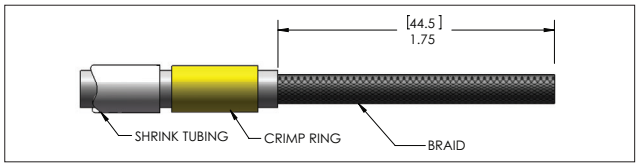


Figure C. Strip wire.

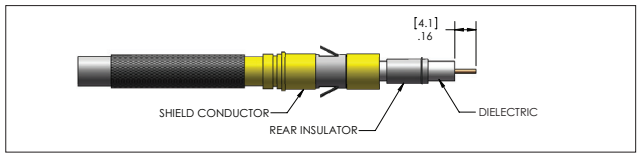


Figure D. Fold braid back and install shield conductor and rear insulator.

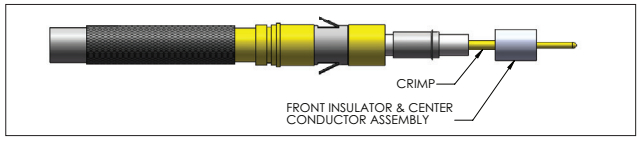


Figure E. Install and crimp center conductor assembly.

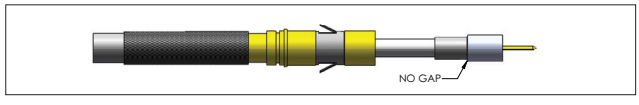


Figure F. Make sure there is no gap between the front and rear insulators.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 132 FOR RG59

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

9. Using the Insulator Insertion Tool, Part # 910 113 101 (**Figure G**), press the insulator into the shield conductor until Surface "A" of the tool touches Surface "B" of the shield conductor (**Figure H**).

10. Turn braid over the back of the shield conductor (**Figure J**). Trim the braid so that at least 0.10" [2.54 mm] of the first step of the shield conductor is covered.

11. Slide the crimp ring into position over the braid and crimp using Hex Crimp Die, Part # 910 101 113 (**Figure K**) in Hex position "A" (**Figure L**).

12. Slide the shrink tubing over the exposed braid and crimp ring and shrink (**Figure M**).

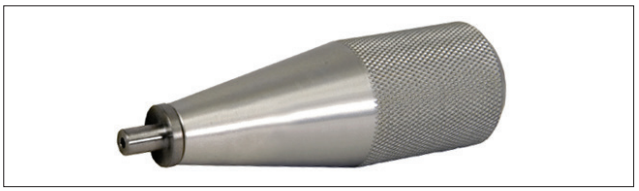


Figure G. Insulator Insertion Tool, Part # 910 113 101.

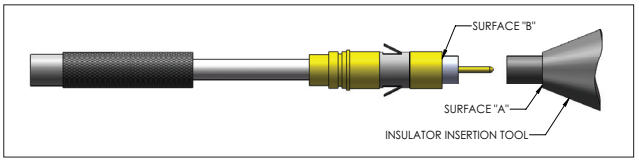


Figure H. Insulator insertion.

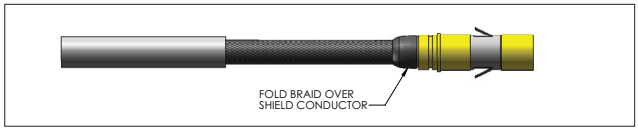


Figure J. Fold braid over shield conductor.



Figure K. Hex Crimp Die, Part # 910 101 113.

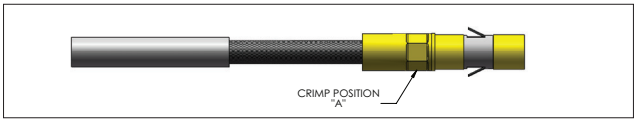


Figure L. Crimp contact.

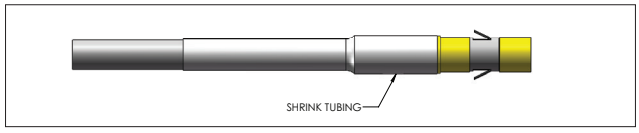
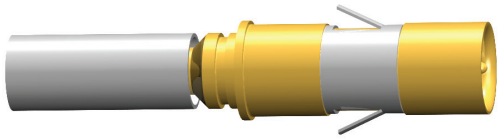


Figure M. Install shrink tubing.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 104 FOR RG58



TOOLS REQUIRED

Coaxial Crimp Tool Kit for RG55-62, Part # 910 102 103

Contains:
- MS 31 Crimp Tool, Part # 910 101 102
- Male Signal Contact Locator Die, Part # 910 104 117
- Insulator Insertion Tool, Part # 910 113 101
- Hex Crimp Tool, Part # 910 101 104

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.

2. Insert the open end of the Male Signal Contact Locator Die, Part # 910 104 117 (**Figure B**), into the contact locator retainer.

3. Slide the retaining latch toward the locator until the locator is securely locked into place. The locator may have to be twisted to allow the latch to retain it. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT

1. Adjust the crimp tool setting by pulling and turning the microcrimp adjusting knob (clockwise increases, counter-clockwise decreases setting) until the microcrimp indicator reads 0.040". Verify with gauge pin. See calibration instructions for Part # 910 101 102 for gauge pin verification instructions.

ASSEMBLY INSTRUCTIONS

1. Strip wire (**Figure C**).

2. Slide tubing and crimp ring on wire (**Figure C**).

3. Unravel braid and fold back over crimp ring (**Figure D**).

4. Strip dielectric (**Figure D**).

5. Slide shield conductor and rear insulator over the dielectric (**Figure E**).

6. Slide front insulator with contact center conductor over the conductor wire (**Figure F**) and crimp using the crimp tool and locator die.

7. Slide rear insulator forward pressing it on front insulator until parts are firmly together (**Figure G**).

Continued on next page...

Dimensions shown: [millimeters]
inches

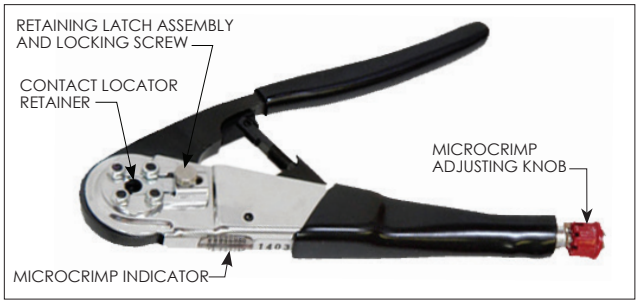


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

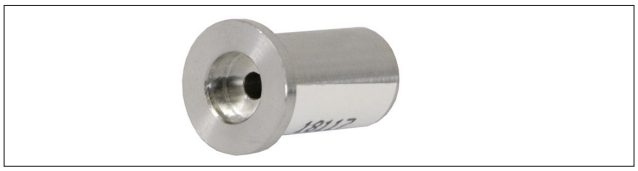


Figure B. Male Signal Contact Locator Die, Part # 910 104 117.

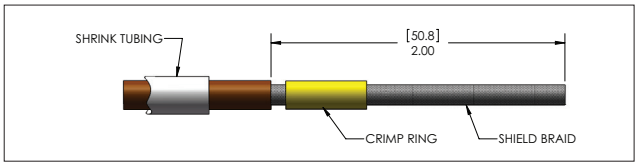


Figure C. Strip wire and install tubing.

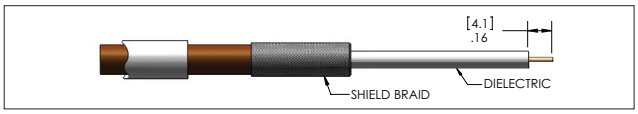


Figure D. Fold braid back and strip dielectric.

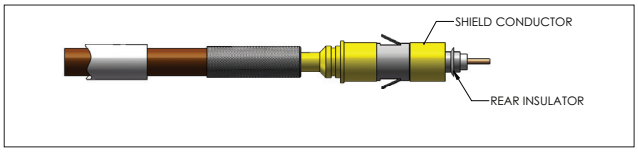


Figure E. Install shield conductor and rear insulator.

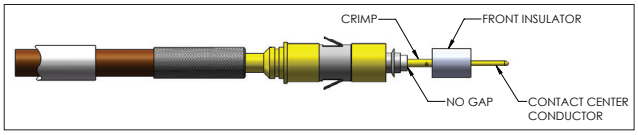


Figure F. Install front insulator with contact center conductor.

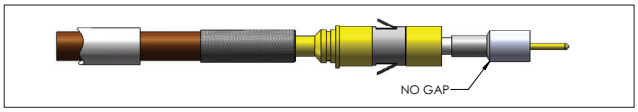


Figure G. Make sure there is no gap between the front and rear insulator.

ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 104 FOR RG58

Dimensions shown: [millimeters]
inches

ASSEMBLY INSTRUCTIONS, CONTINUED

8. Using the Insulator Insertion Tool, Part # 910 113 101 (**Figure H**), press the insulator into the shield conductor until Surface "A" of the tool touches Surface "B" of the shield conductor (**Figure J**).

9. Fold braid back over the shield conductor (**Figure K**). Trim braid so that a minimum of 0.10" [2.54 mm] covers the first step of the shield conductor.

10. Slide the crimp ring into position over braid and crimp using Hex Crimp Tool, Part # 910 101 104 (**Figure L**) in position "A" for the first crimp, rotate the hex 180° and crimp in the same position using position "B" (**Figure M**).

11. Slide the shrink tubing over the exposed braid and crimp ring and shrink (**Figure N**).

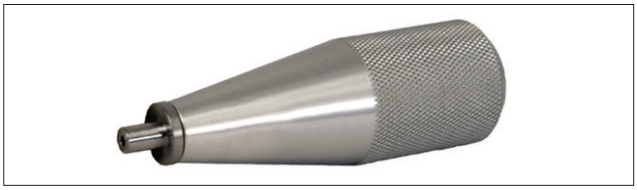


Figure H. Insulator Insertion Tool, Part # 910 113 101.

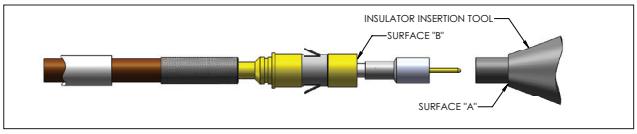


Figure J. Insulator insertion.

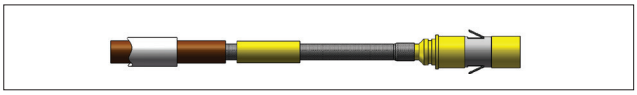


Figure K. Fold braid back over shield conductor.



Figure L. Hex Crimp Tool, Part # 910 101 104.

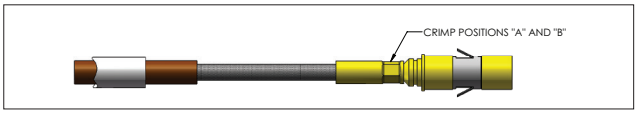


Figure M. Crimp contact.

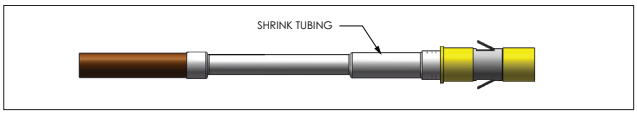


Figure N. Install shrink tubing.

ITA CONTACT INSTALLATION AND REMOVAL

PART # 610 103 103 / 610 103 104 / 610 103 132

TOOLS REQUIRED
Power/Coaxial ITA Extraction Tool, Part # 910 112 105

CONTACT INSTALLATION INSTRUCTIONS

1. Assemble the contact to the respective wire.
   NOTE: For more information concerning the process of crimping the contact please see contact assembly instructions in this User Manual.

2. Insert the terminated contact into the back (wiring side) of the module. Push the contact forward until the crimp is inside the module housing. Once in place, pull the wire slightly to ensure the contact is seated.

CONTACT REMOVAL INSTRUCTIONS

1. Remove the module from the ITA frame.
   NOTE: For more information concerning the process of removing the module from the ITA frame, see module installation and removal instructions in this User Manual.

2. Place the Power/Coaxial ITA Extraction Tool, Part # 910 112 105 (**Figure A**), over the contact to be removed/replaced. Use care to keep the tool perpendicular to the surface of the module as not to bend the tool or the contact to be removed. Rotate the tool slightly while pushing it into the counter bore on the mating side of the module.

3. Once the extraction tool is seated properly and the retaining ring tabs on the contact are compressed, push the tool into the module (**Figure B**). The contact will be pushed out of the rear of the module.

DO NOT DEPRESS THE PLUNGER ON THE BACK OF THE EXTRACTION TOOL UNTIL THE TIP OF THE EXTRACTION TOOL HAS FULLY SEATED INTO THE MODULE AND COMPRESSED THE RETAINING RING TABS ON THE CONTACT.

NOTE: The process shown here uses standard/90 series modules. The same process is used for modules from other series.

NOTE: If you are using a hybrid module, you may need to reference the User Manual for the other contact type for extraction instructions.

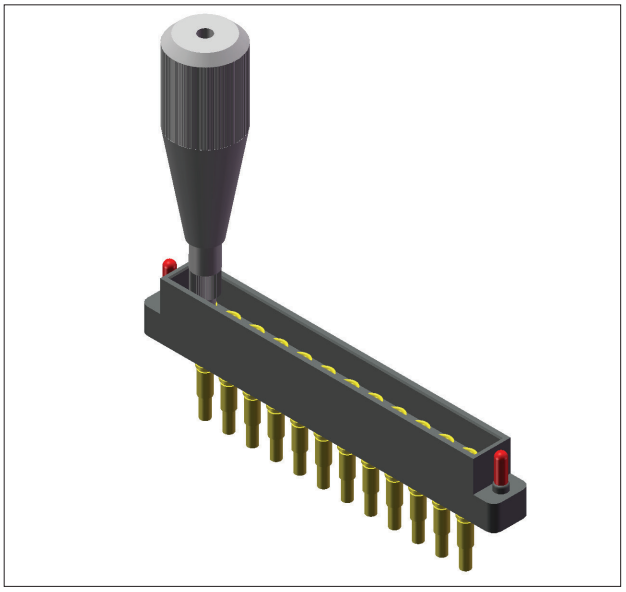


Figure A. Power/Coaxial ITA Extraction Tool, Part # 910 112 105.

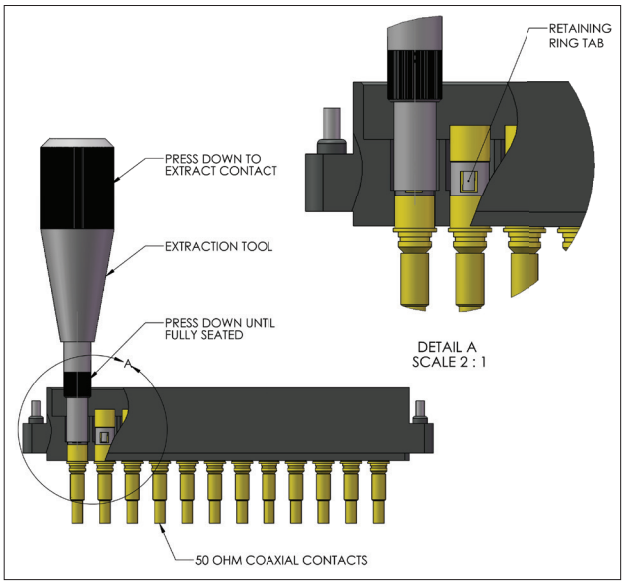


Figure B. Take care to keep the tool perpendicular so as to not bend the pins.

90 SERIES MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED
$^{3}/_{32}$ Allen Wrench

INSTALLATION INSTRUCTIONS

1. Place the module in the receiver or ITA until the upper and lower module screws touch the mating holes in the inner frame. Ensure that Position 1 is located at the top for systems in which the modules are oriented vertically or to the left for systems in which the modules are oriented horizontally.

2. Using a $^{3}/_{32}$ Allen wrench, tighten the top screw 1 to 2 full revolutions, while pushing lightly against the face of the module.

3. Maintain this pressure while tightening the bottom screw 1 to 2 full revolutions.

4. Repeat this sequence until the module is seated. Torque the screw to 4 in-lbs [0.45 Nm].

REMOVAL INSTRUCTIONS

1. To remove, loosen the top screw 1 to 2 full revolutions. Loosen bottom screw 1 to 2 full revolutions.

2. Repeat this sequence until the module is separated from the receiver or ITA.

Note: For optimum performance and system longevity, distribute the contact load evenly throughout the module.

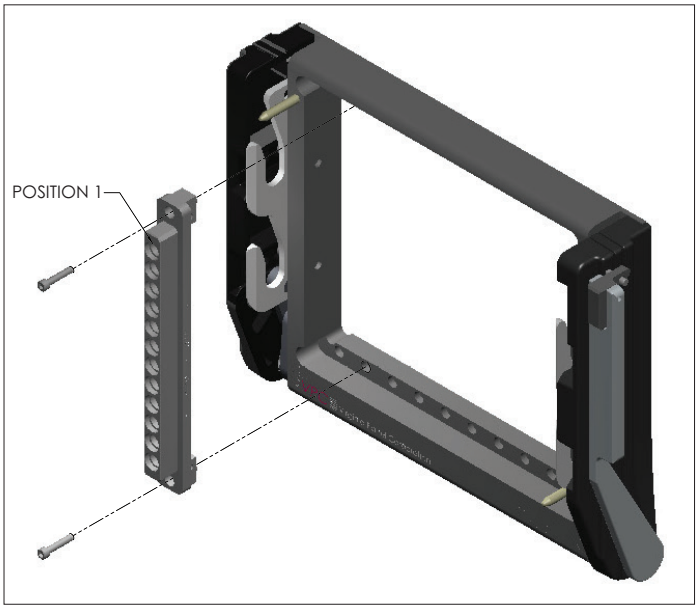


Figure A. Receiver Module.

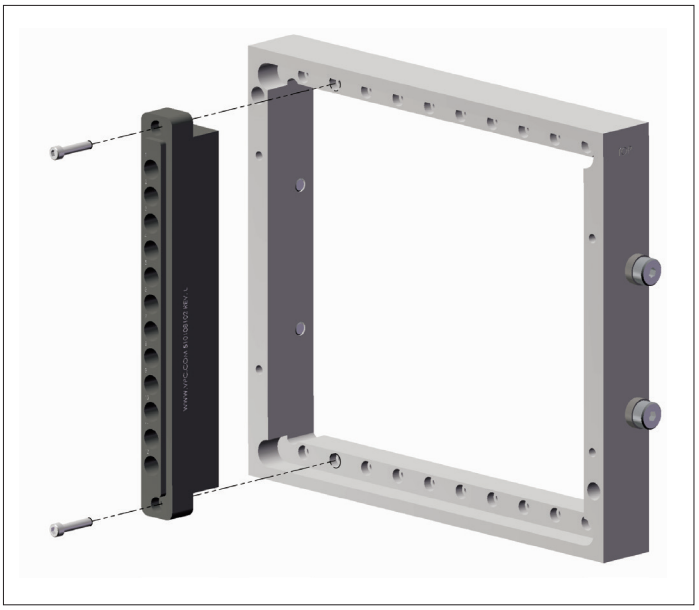


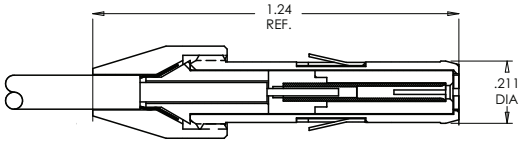
Figure B. ITA Module.

CROSS REFERENCE TABLES

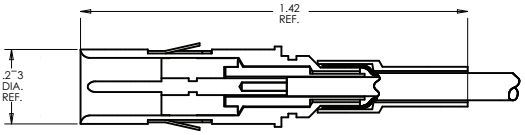
RECEIVER CONTACTS	STANDARD/ 90 SERIES RECEIVER MODULE	CRIMP TOOLS		EXTRACTION
	510 104 102	910 102 102	910 102 103	910 112 101
610 104 101	X	X		X
610 104 129	X		X	X
610 104 131	X		X	X

ITA CONTACTS	STANDARD/ 90 SERIES ITA MODULES	CRIMP TOOLS			EXTRACTION
	510 108 102	910 102 102	910 102 103	910 104 117	910 112 105
610 103 103	X	X		X	X
610 103 104	X		X		X
610 103 132	X		X		X

CONTACT PREFORMANCE SPECIFICATIONS



Receiver Contact
Part # 610 104 101



ITA Contact
Part # 610 103 103

Dimensions shown: [millimeters]
inches

Electrical Specifications

IMPEDANCE	50 Ohms
FREQUENCY RANGE	0 - 2 GHz
CONTACT RESISTANCE	6 Milliohms
CURRENT RATING	1.5 Amp max.
DIELECTRIC BREAKDOWN	1000 V DC
VSWR	Less than or equal to 1.10 : 1 @ 250 MHz
CROSSTALK	Down 90 dB @ 100 MHz
INSERTION LOSS	Less than 0.017 dB @ 100 MHz
RECOMMENDED CABLE	RG174 or RG316 for 610 104 101 and 610 103 103
	RG59 for 610 104 129 and 610 103 132
	Rg58 for 610 104 131 and 610 103 104

Mechanical Characteristics

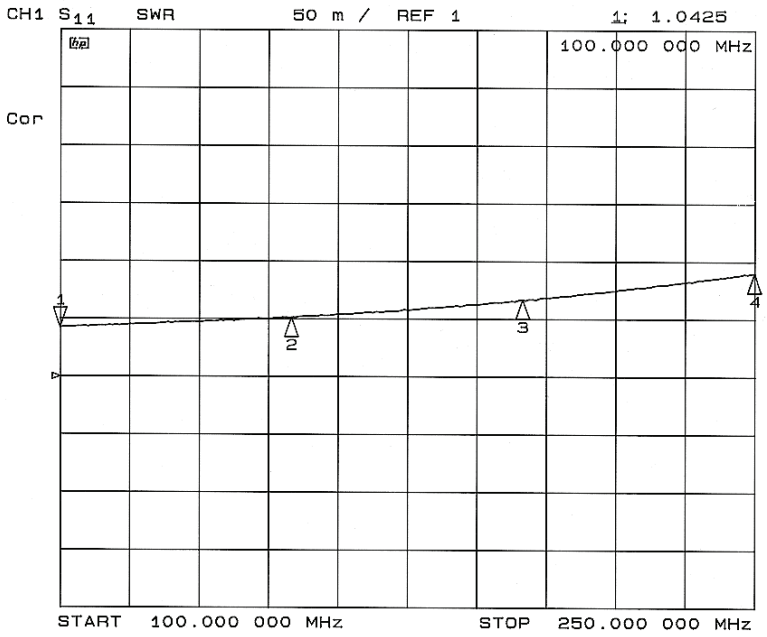
CYCLE LIFE	20,000
MATING FORCE	1.5 lbs [0.68 kg]

Materials and Plating

SHIELD (ITA)	**360 Brass alloy per QQ-B-626** .000050 Au per MIL-G-45204, Type II, over 0.0001 Ni per QQ-N-290
SHIELD (RCVR)	**360 Brass alloy per QQ-B-626** .000030 Au per MIL-G-45204, Type II, over 0.0001 Ni per QQ-N-290
CENTER CONDUCTOR (ITA)	**360 Brass alloy per QQ-B-626** .000060 Au per MIL-G-45204, Type II, over 0.0001 Ni per QQ-N-290
CENTER CONDUCTOR (RCVR)	**BeCu alloy M25** .000060 Au per MIL-G-45204, Type II, over 0.0001 Ni per QQ-N-290
CRIMP RING	**360 Brass alloy per QQ-B-626** .0001 Ni per QQ-N-290
RETAINING RING	**BeCu alloy M25** .0001 Ni per QQ-N-290
NUT	**Brass** .0000050 Au per MIL-G-45204, Type II, over 0.0001 Ni per QQ-N-290
DIELECTRIC	**High Density Polyethylene**

VSWR CHART & DIAGRAM

VSWR		
MARKER	**FREQUENCY**	**INSERTION LOSS**
1	100 MHz	1.042
2	150 MHz	1.051
3	200 MHz	1.066
4	250 MHz	1.091



50 Ohm Coaxial Plots for 610 103 103 with 610 104 101
Typical Mated Pair Using RG174

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP