



# ASSEMBLY, INSTALLATION, AND REMOVAL OF CONTACTS AND MODULES

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FOR 50 OHM COAX CONTACTS AND MODULES

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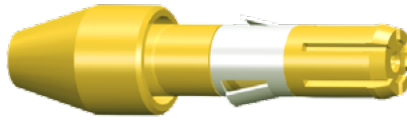
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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 101 for RG316 / 910 101 102 / 910 102 102 / 910 104 119 / 910 121 104



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 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.

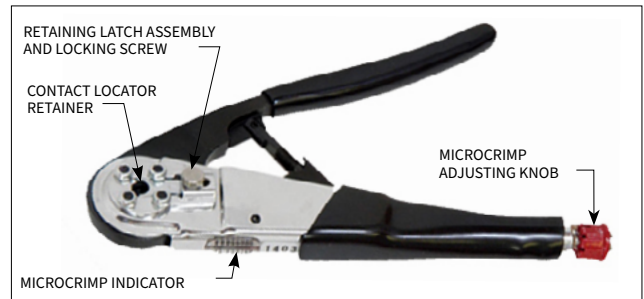


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

### 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.

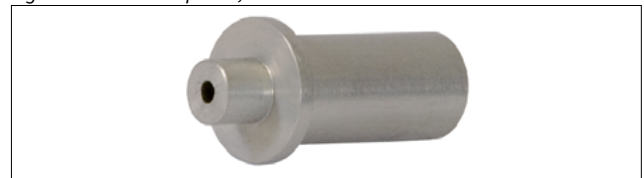


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

### 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.

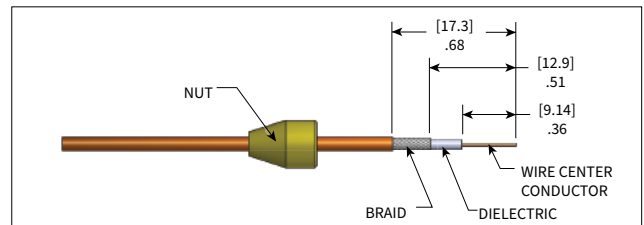


Figure C. Install nut and strip wire.

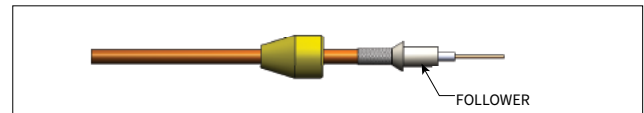


Figure D. Fold braid back. Install follower.

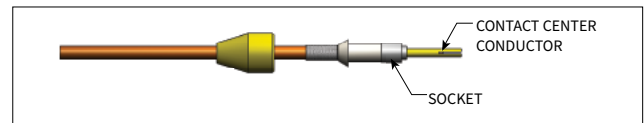


Figure E. Install rear insulator assembly.

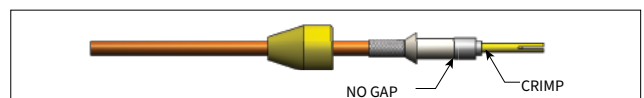


Figure F. Crimp center conductor.

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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 101 for RG316 / 610 103 103 / 910 121 104

### 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 Coax 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.

Dimensions shown: [millimeters]  
inches

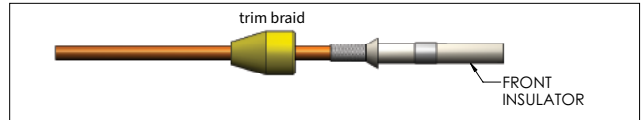


Figure G. Install front insulator and trim braid.

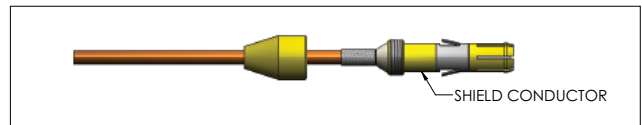


Figure H. Install shield conductor.

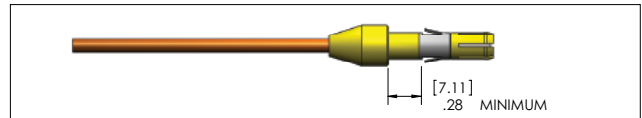


Figure I. Screw nut onto shield conductor.

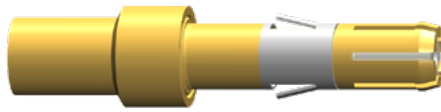


Figure J. Shield Conductor Forming Tool, Part # 910 121 104.

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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 129 FOR RG59 / 910 101 102 / 910 101 108 / 910 104 119 / 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 the crimp 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**).

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Dimensions shown: [millimeters]  
inches

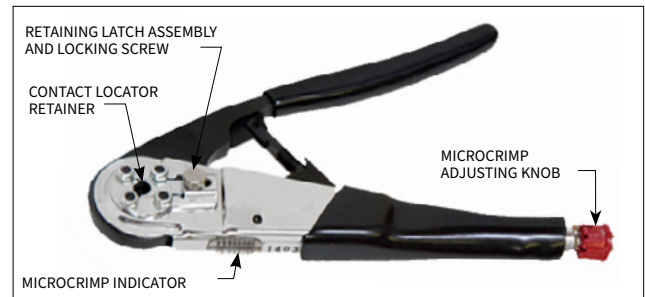


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

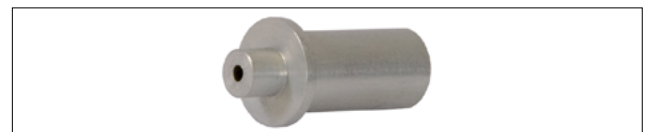


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

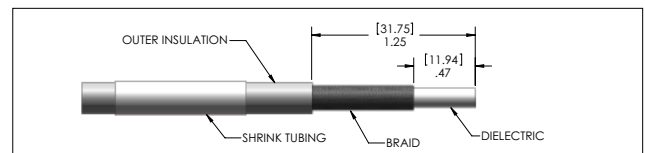


Figure C. Strip wire and install tubing.

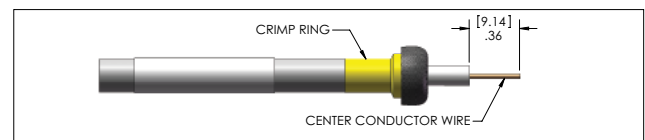


Figure D. Fold braid back and strip dielectric.

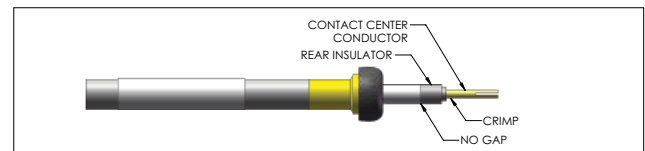


Figure E. Make sure there is no gap between the center conductor and the dielectric.

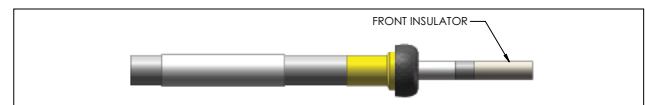


Figure F. Install insulator.

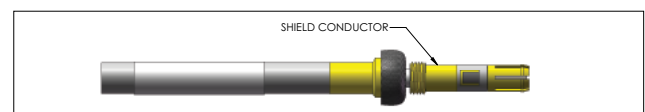


Figure G. Install shield conductor.

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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 129 FOR RG59 / 610 103 132 / 910 101 108 / 910 121 104

### 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. Use the larger die position for crimp position "A" and the smaller die position for crimp position "B". 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 Coax 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.

Dimensions shown: [millimeters]  
inches

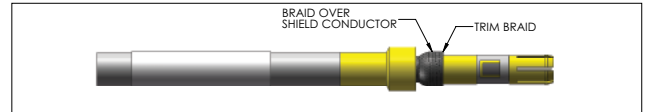


Figure H. Fold braid back over shield conductor.

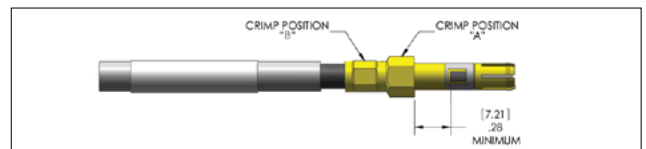


Figure J. Crimp contact.

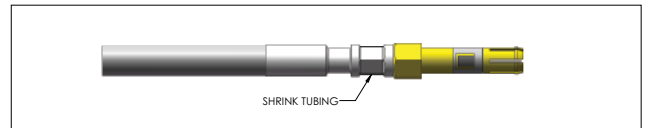


Figure K. Install shrink tubing.

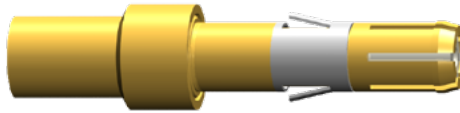


Figure L. Shield Conductor Forming Tool, Part # 910 121 104.

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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 131 FOR RG58 / 910 101 102 / 910 101 108 / 910 104 119 / 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.

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Dimensions shown: [millimeters]  
inches

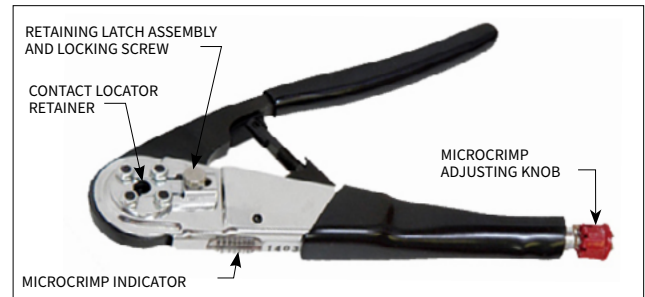


Figure A. MS 31 Crimp Tool, Part # 910 101 102.

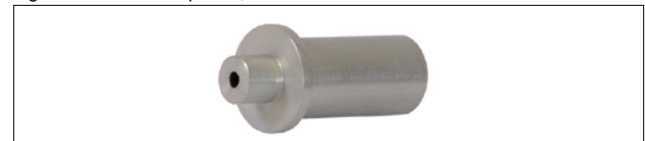


Figure B. Female Signal Contact Locator Die, Part # 910 104 119.

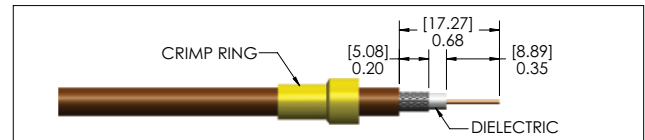


Figure C. Strip wire.

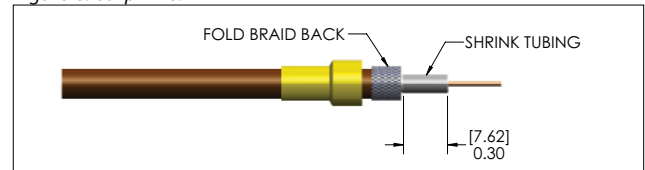


Figure D. Fold braid back and install tubing.

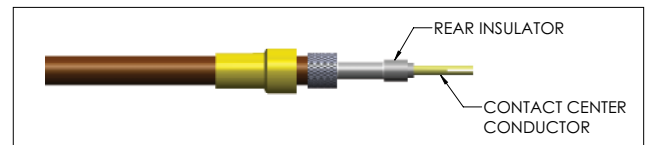


Figure E. Install rear insulator.

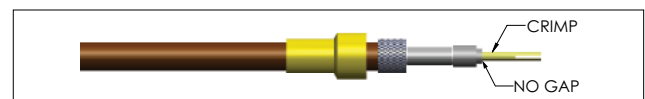


Figure F. Make sure there is no gap between the center conductor and the dielectric.

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## RECEIVER CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 104 131 FOR RG58 / 610 103 104 / 910 101 108 / 910 121 104

### 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. Use the larger die position for crimp position "A" and the smaller die position for crimp position "B". 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 Coax 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.

Dimensions shown: [millimeters]  
inches

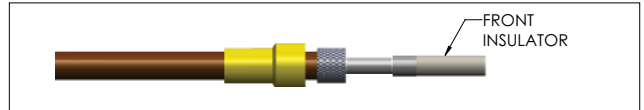


Figure G. Install front insulator.

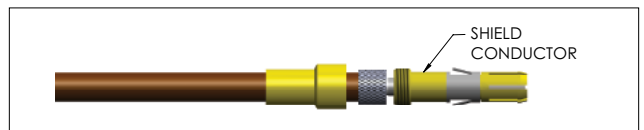


Figure H. Install shield conductor.

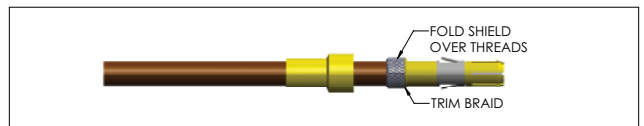


Figure J. Fold braid over shield conductor.

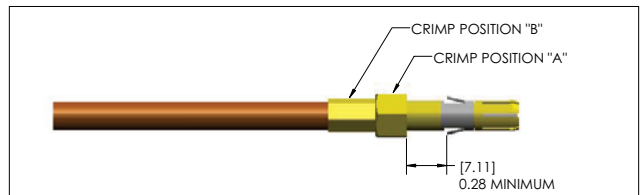


Figure K. Crimp contact.

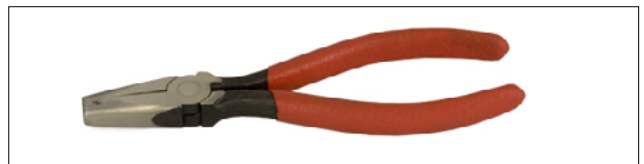


Figure L. Shield Conductor Forming Tool, Part # 910 121 104.

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## RECEIVER CONTACT INSTALLATION AND REMOVAL

PART # 610 104 101 / 610 104 129 / 610 104 131 / 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/Coax 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.*

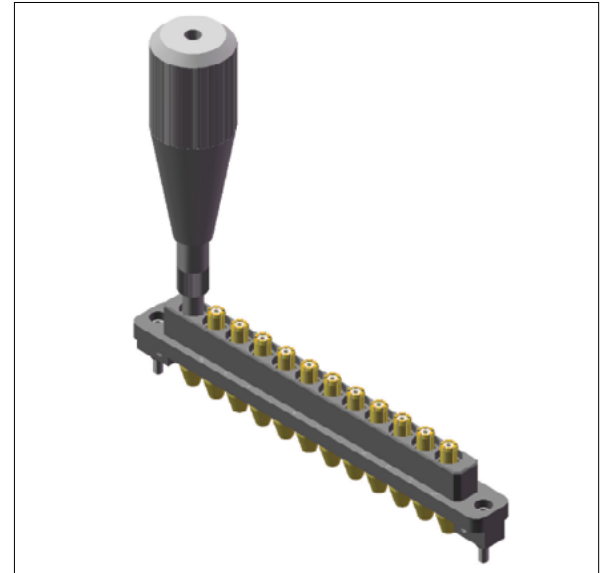


Figure A. Power/Coax Receiver Extraction Tool, Part # 910 112 101.

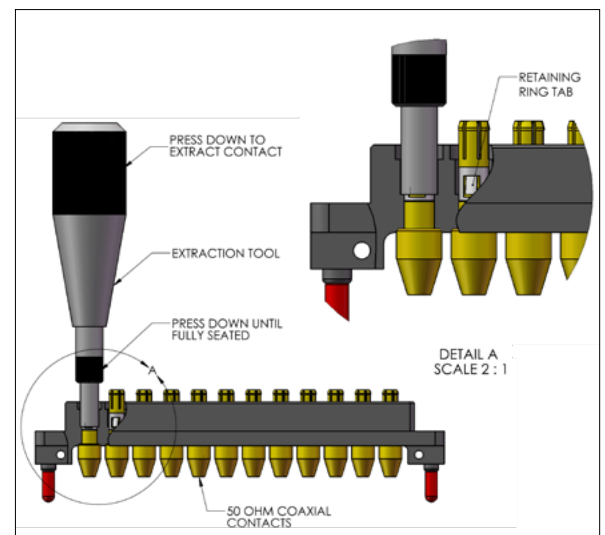


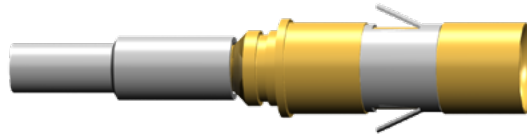
Figure B. Take care to keep the tool perpendicular to prevent bent pins.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 103 FOR RG316 / 910 101 102 / 910 101 104 / 910 102 102 / 910 104 117 / 910 113 101



Dimensions shown: [millimeters]  
inches

### TOOLS REQUIRED

Coax 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.

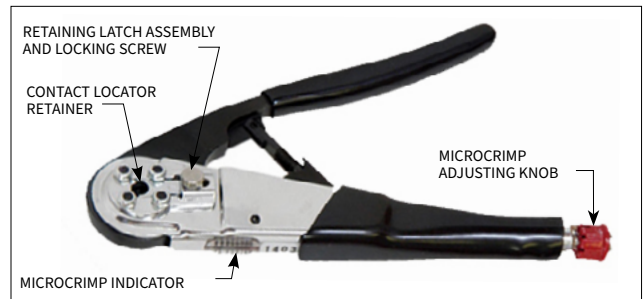


Figure A. MS 31 Crimp Tool, Part # 910 101 102.



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

### 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.

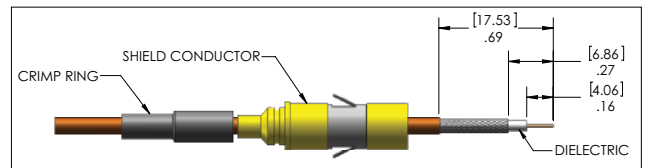


Figure C. Install crimp ring and shield conductor.

### 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**).

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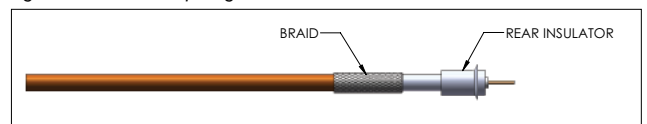


Figure D. Fold braid back and install rear insulator.

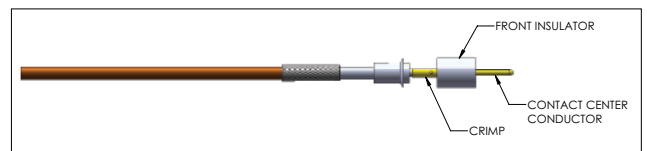


Figure E. Install front insulator with signal contact.

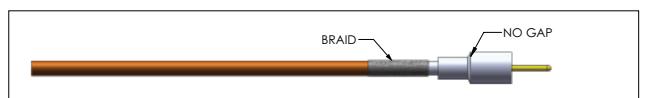


Figure F. Make sure there is no gap between the rear and front insulator.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 103 FOR RG316 / 910 113 101 / 910 101 104

### 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.

Dimensions shown: [millimeters]  
inches



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

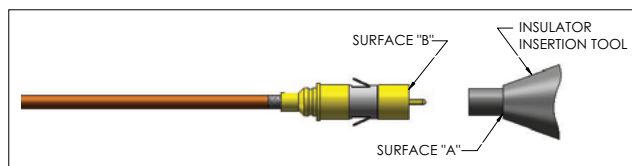


Figure H. Insulator insertion.

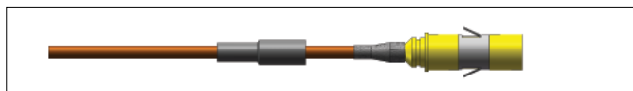


Figure J. Fold braid back over shield conductor.

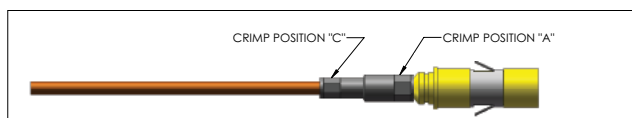


Figure K. Crimp contact.

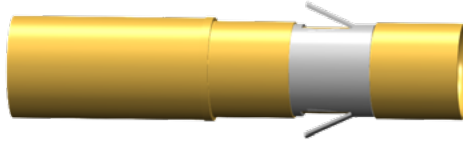


Figure L. Hex Crimp Tool, Part # 910 101 104.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 132 FOR RG59 / 910 101 102 / 910 101 113 / 910 102 103 / 910 104 117



### 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.

Dimensions shown: [millimeters]  
inches

### 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**).

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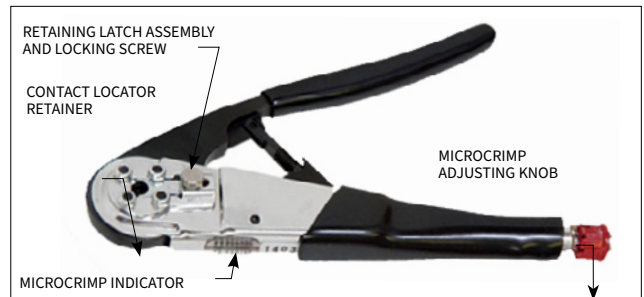


Figure A. MS 31 Crimp Tool, Part # 910 101 102.



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

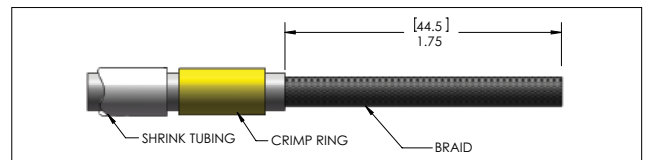


Figure C. Strip wire.

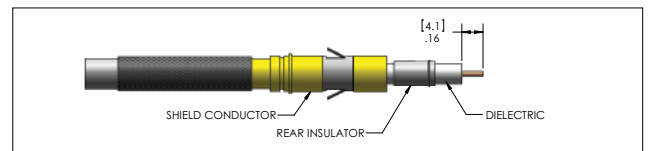


Figure D. Fold braid back and install shield conductor and rear insulator.

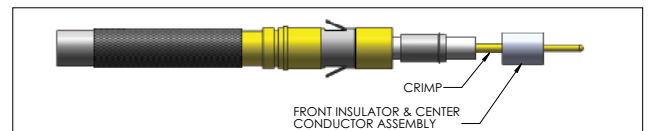


Figure E. Install and crimp center conductor assembly.

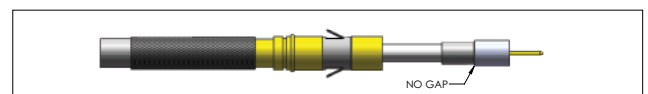


Figure F. Make sure there is no gap between the front and rear insulators.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 132 FOR RG59 / 910 101 113 / 910 113 101

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**).

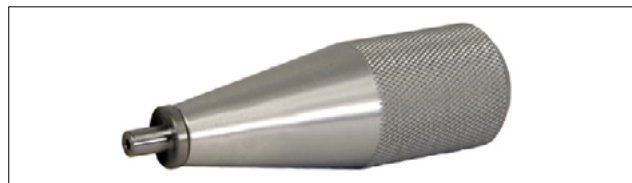


Figure G. Insulator Insertion Tool, Part # 910 113 101.

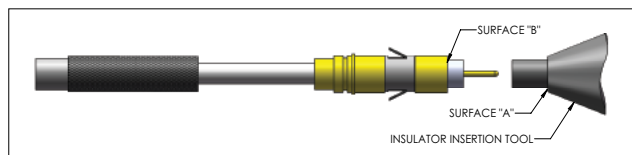


Figure H. Insulator insertion.



Figure J. Fold braid over shield conductor.



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

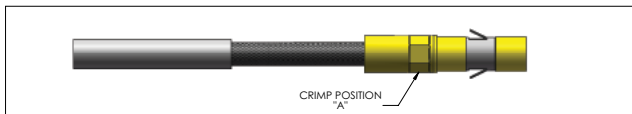


Figure L. Crimp contact.

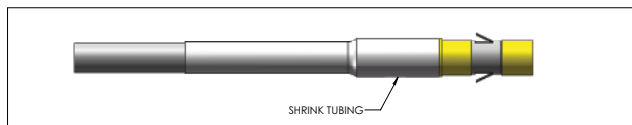
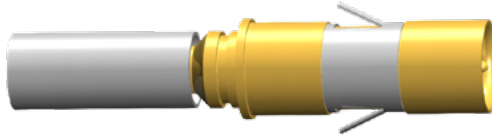


Figure M. Install shrink tubing.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 104 FOR RG58 / 910 101 102 / 910 101 104 / 910 102 103 / 910 104 117 / 910 113 101



### 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

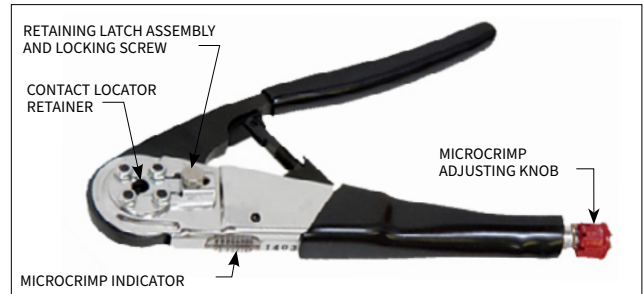


Figure A. MS 31 Crimp Tool, Part # 910 101 102.



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

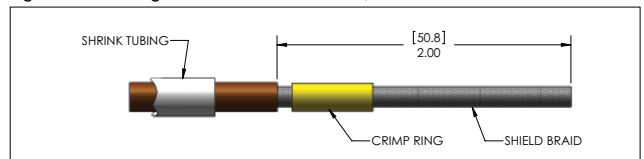


Figure C. Strip wire and install tubing.

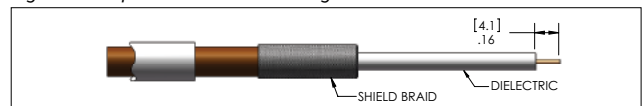


Figure D. Fold braid back and strip dielectric.

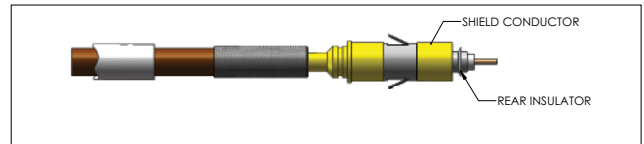


Figure E. Install shield conductor and rear insulator.

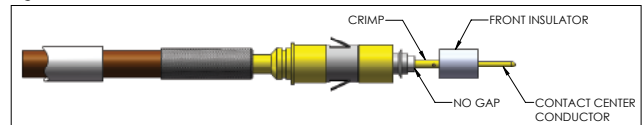


Figure F. Install front insulator with contact center conductor.

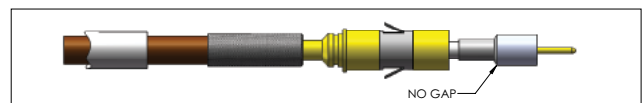


Figure G. Make sure there is no gap between the front and rear insulator.

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## ITA CONTACT CRIMP TOOL SETUP, ADJUSTMENT, & ASSEMBLY

PART # 610 103 104 FOR RG58 / 910 101 104 / 910 113 101

### 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**).

Dimensions shown: [millimeters]  
inches

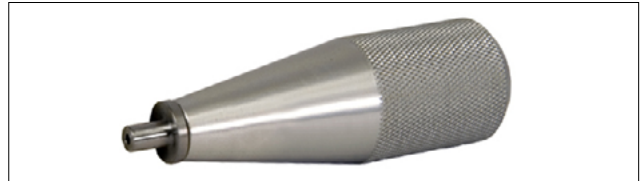


Figure H. Insulator Insertion Tool, Part # 910 113 101.

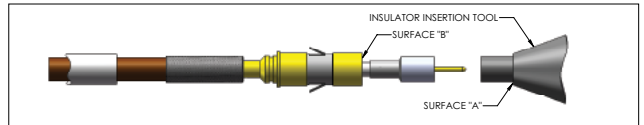


Figure J. Insulator insertion.



Figure K. Fold braid back over shield conductor.



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

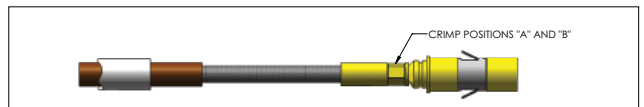


Figure M. Crimp contact.

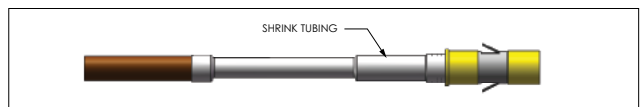


Figure N. Install shrink tubing.

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## ITA CONTACT INSTALLATION AND REMOVAL

PART # 610 103 103 / 610 103 104 / 610 103 132 / 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/Coax 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.*

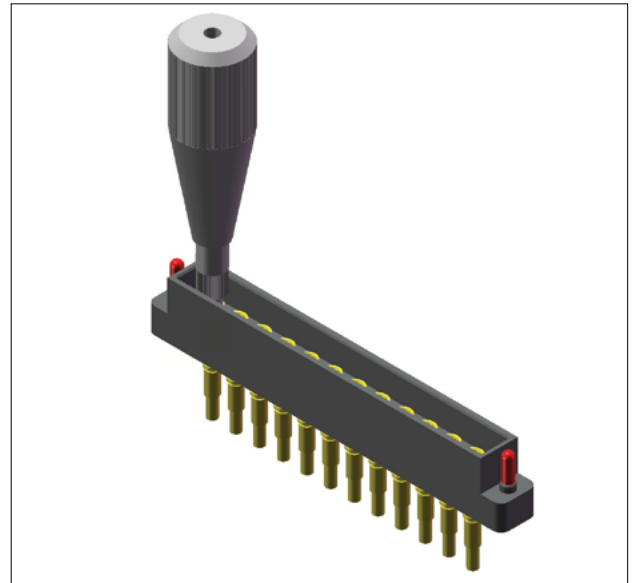


Figure A. Power/Coax ITA Extraction Tool, Part # 910 112 105.

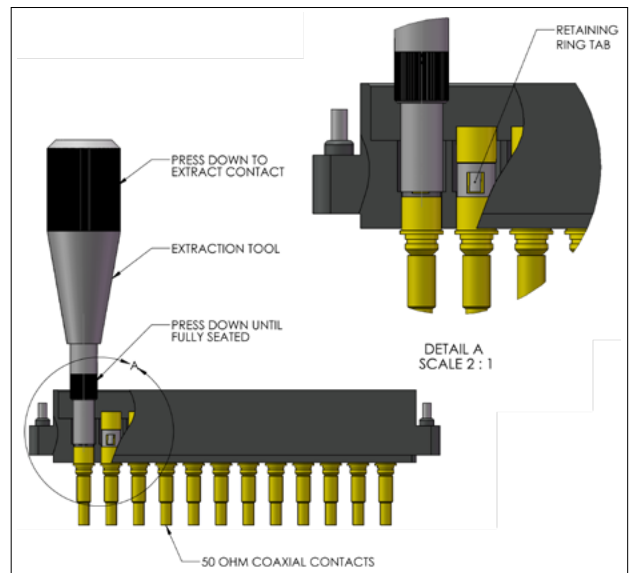


Figure B. Take care to keep the tool perpendicular so as to not bend the pins.

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## 90 SERIES MODULE INSTALLATION AND REMOVAL

RECEIVER PART # 510 104 102

ITA PART # 510 108 102

### TOOLS REQUIRED

$\frac{3}{32}$  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  $\frac{3}{32}$  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.*

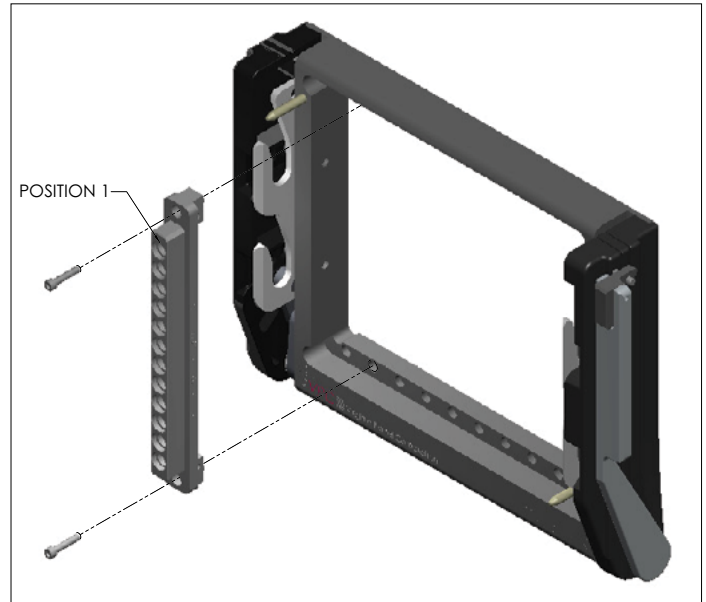


Figure A. Receiver Module.

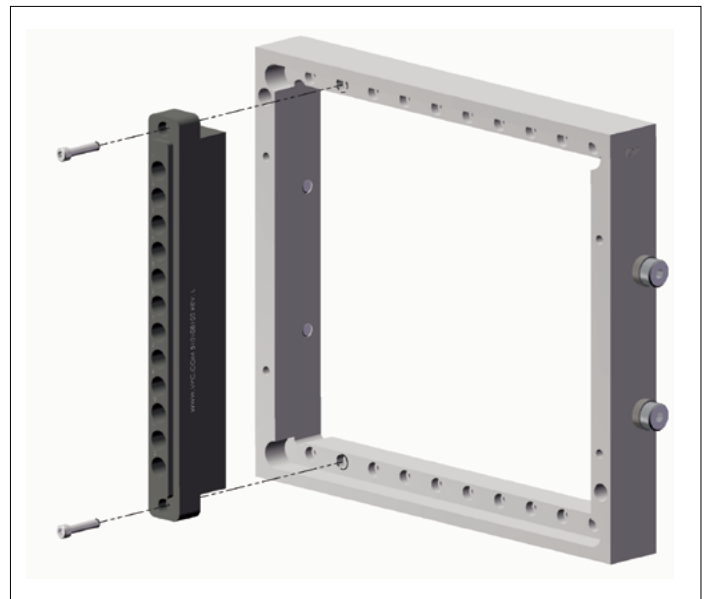


Figure B. ITA Module.

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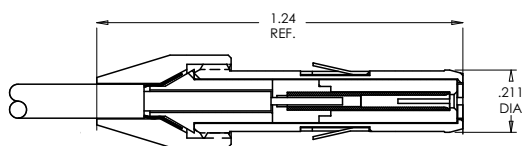
## CROSS REFERENCE TABLES

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

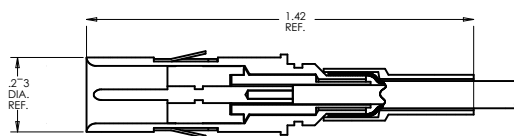
ITA CONTACTS	STANDARD/ 90 SERIES ITA MODULES	CRIMP TOOLS			EXTRACTION
	510 108 102	910 102 102	910 102 103	910 104 117	910 112 105
610 103 103	X	X		X	X
610 103 104	X		X		X
610 103 132	X		X		X

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## CONTACT PERFORMANCE SPECIFICATIONS



**Receiver Contact**  
**Part # 610 104 101**



**ITA Contact**  
**Part # 610 103 103**

Dimensions shown: [millimeters]  
inches

### Electrical Specifications

<b>IMPEDANCE</b>	50 Ohms
<b>FREQUENCY RANGE</b>	0 - 2 GHz
<b>CONTACT RESISTANCE</b>	6 Milliohms
<b>CURRENT RATING</b>	1.5 Amp max.
<b>DIELECTRIC BREAKDOWN</b>	1000 V DC
<b>VSWR</b>	Less than or equal to 1.10 : 1 @ 250 MHz
<b>CROSSTALK</b>	Down 90 dB @ 100 MHz
<b>INSERTION LOSS</b>	Less than 0.017 dB @ 100 MHz
<b>RECOMMENDED CABLE</b>	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

<b>CYCLE LIFE</b>	20,000
<b>MATING FORCE</b>	1.5 lbs [0.68 kg]

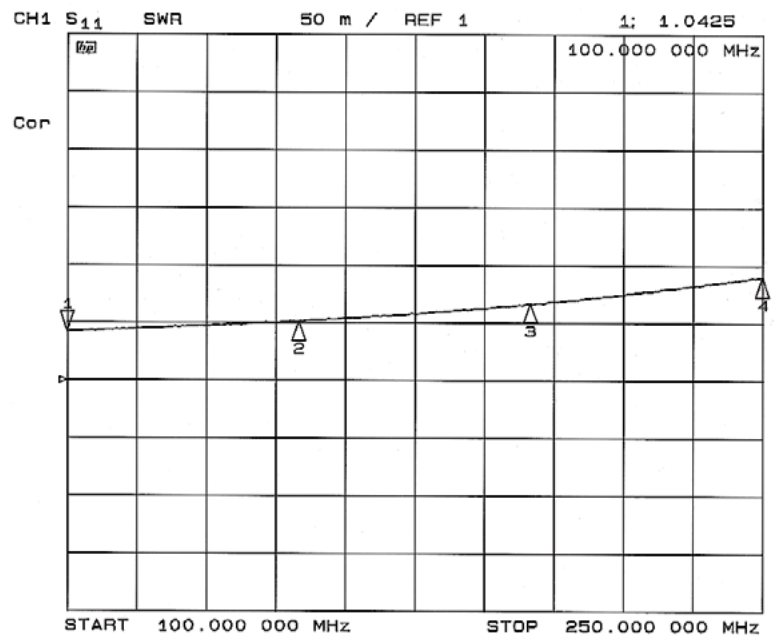
### Materials and Plating

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

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## 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 Coax Plots for 610 103 103 with 610 104 101

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