ASSEMBLY, INSTALLATION, AND REMOVAL OF CONTACTS AND MODULES

FOR TRIPADDLE SIGNAL CONTACTS AND MODULES

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TRIPADDLE SIGNAL RECEIVER CONTACT ASSEMBLY

PART # 610 110 101 / 610 110 125 / 610 110 167 / 610 110 171

TOOLS REQUIRED
Crimp Tool, Part # 910 101 103
Locator, Part # 910 104 127

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 103 (**Figure A**), by loosening the latch-locking screw (turn counter-clockwise to loosen). Remove any previously used locator.
2. Insert the open end of the Locator, Part # 910 104 127 (**Figure B**), into the crimp tool locator retainer (expect a tight tolerance fit).
3. Slide the retaining latch toward the locator until the locator is securely locked into place. Tighten the latch-locking screw.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Adjust the crimp tool setting by pulling the microcrimp adjusting knob and turning it at the same time (clockwise increases, counter-clockwise decreases setting) until the desired setting is achieved on the microcrimp indicator (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 103 for pin gauge verification instructions.
2. Determine the strip length according to wire gauge (**Table 1**). *NOTE: if the wire insulation diameter is greater than 0.063 [1.6], the strip length should be 0.250 [6.35].*
3. Strip wire.

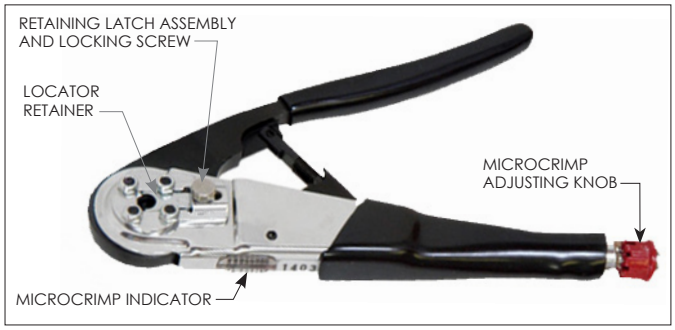

Figure A. Crimp Tool, Part # 910 101 103.

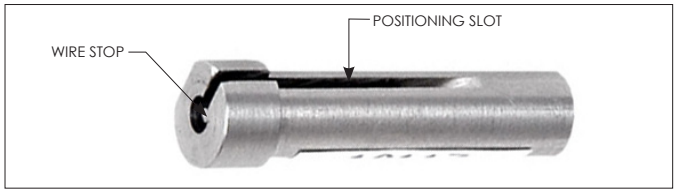

Figure B. Locator positioning slot and wire stop only found on Part # 910 104 127.

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Table 1.

CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110101/ 610110125	910101103	910104127	0.200 [5.08]	20	0.037 [0.94]	0.033 [0.84]	10 [44.5]	910110102
				22	0.032 [0.81]	0.029 [0.74]		
				24	0.028 [0.71]	0.025 [0.64]	8 [35.6]	
			0.250 [6.35]	2-24*	0.036 [0.91]	0.033 [0.84]	8* [35.6]*	
			0.250 [6.35]	2-26*	0.034 [0.86]	0.032 [0.81]	4* [17.8]*	
				3-26*	0.037 [0.94]	0.035 [0.89]		
610110167/ 610110171	910101103	910104127	0.200 [5.08]	26	0.028 [0.71]	0.024 [0.61]	4 [17.8]	
				28	0.024 [0.61]	0.021 [0.53]	2* [8.9]*	
			0.250 [6.35]	2-28*	0.028 [0.71]	0.026 [0.66]		
			0.200 [5.08]	30	0.022 [0.56]	0.020 [0.51]	1.0* [4.4]*	
			0.250 [6.35]	2-30*	0.026 [0.66]	0.025 [0.63]		

Locator Part # 910 104 107 can be substituted for 910 104 127; however, VPC recommends the use of Part # 910 104 127.
**Pullout force is for individual wires*

TRIPADDLE SIGNAL RECEIVER CONTACT ASSEMBLY

PART # 610 110 101 / 610 110 125 / 610 110 167 / 610 110 171

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION, CONTINUED

3. Hold the crimp tool parallel to the floor (**Figure C**). Insert the contact into the crimp tool. For contacts using the crimp contact locator, Part # 910 104 127, align the contact retaining tab (**Figure D**) with the positioning slot in the crimp contact locator and insert the contact into the crimp tool.

NOTE: The contact will drop completely into the crimp tool if properly positioned. If the contact does not drop completely into the crimp tool, remove the contact, ensure that the contact retaining tab is properly aligned with the contact crimp locator, and re-insert the contact into the crimp tool. Do not force the contact into the crimp tool, as contact damage will occur.

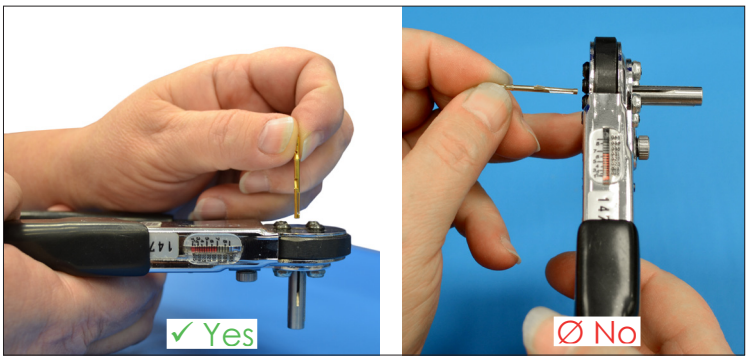


Figure C. Appropriate method for inserting contact into crimp tool.

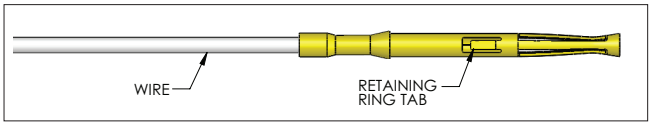


Figure D. Contact retaining tab must be aligned with the contact locator positioning slot.

CONTACT SETUP AND CRIMPING

1. Insert stripped wire fully into the contact and squeeze the crimp tool handle until a positive stop is reached. The tool will release and return into a fully "open" position. Remove crimped contact and wire.

OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING THE CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT THE TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE THE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON THE BACK OF THE TOOL.

ACCEPTABLE CRIMP CRITERIA

1. Follow the instructions for tool setup to ensure the tool is ready for use.

2. Crimp the contact onto the respective wire according to the contact assembly instructions. Ensure that the crimp minimum is measured with an approved gauge pin.

3. The crimp must be between the inspection hole and the end of the contact to be acceptable. The crimp creates two distinctive indentions on four sides of the contact creating a square appearance. This is an acceptable result (**Figure E**).

4. Inspect the crimp to ensure none of the indentions are connected to the inspection hole (**Figures F&G**). If the indentions make contact with, or are above the inspection hole, the crimp is unacceptable.

5. Inspect the crimp to ensure none of the indentions are connected to the end of the contact. If the indentions make contact with the end of the contact, the crimp is unacceptable.

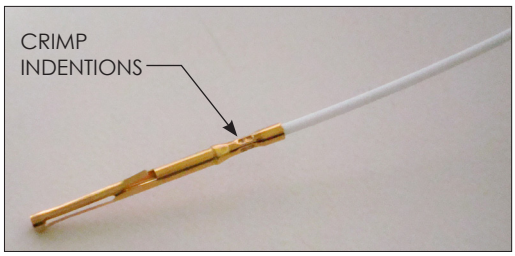


Figure E. Correct location of the crimp divots.

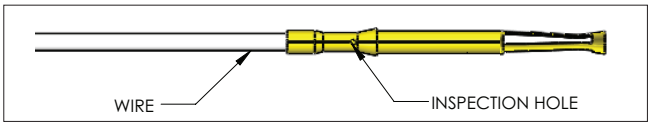


Figure F. The crimp region is between the inspection hole and the end.

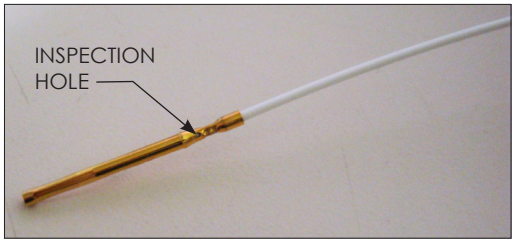
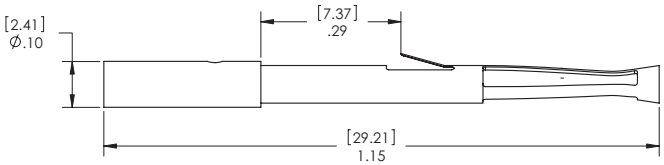


Figure G. The crimp region is between the inspection hole and the end.

TRIPADDLE SIGNAL RECEIVER CONTACT ASSEMBLY

PART # 610 110 128 REV. C AND GREATER / 610 110 177



TOOLS REQUIRED

Crimp Tool, Part # 910 101 102
Locator, Part # 910 104 146

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch-locking screw (turn counter-clockwise to loosen). Remove any previously used locator.
2. Insert the open end of the Locator, Part # 910 104 146 (**Figure B**), into the crimp tool locator retainer.
3. Slide the retaining latch toward the locator until the locator is securely locked into place. Tighten the latch-locking screw.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Adjust the crimp tool setting by pulling the microcrimp adjusting knob and turning it at the same time (clockwise increases, counter-clockwise decreases setting) until the desired setting is achieved on the microcrimp indicator (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 102 for pin gauge verification instructions.
2. Determine the strip length according to wire gauge (**Table 1**). Strip wire.

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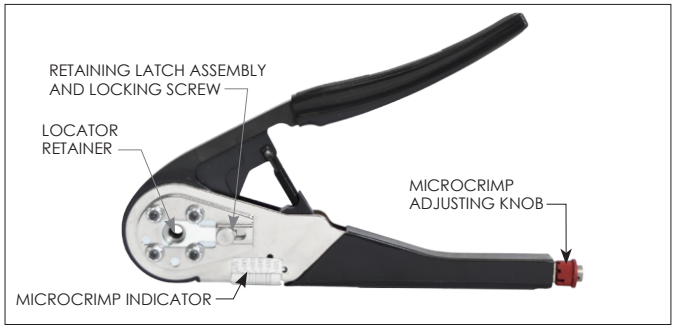


Figure A. Crimp Tool, Part # 910 101 102.

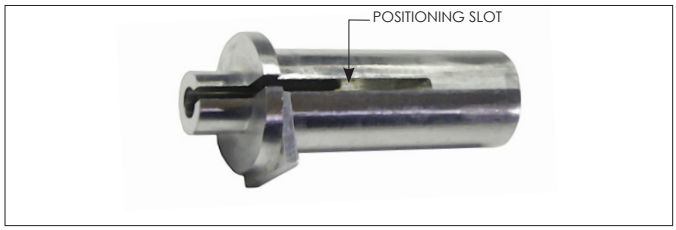


Figure B. Locator Part # 910 104 146. Line retaining tab up with positioning slot.

Table 1.

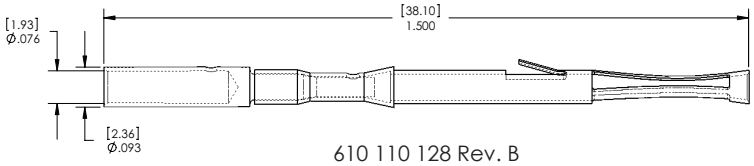
CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110128 REV C/ 610110177	910101102	910104146	0.300 [7.62]	14	0.052 [1.32]	0.048 [1.21]	10* [44.5*]	910110102
				16	0.048 [1.21]	0.044 [1.11]		
			0.260 [6.60]	18	0.044 [1.11]	0.040 [1.01]		
			0.300 [7.62]	2-20*	0.044 [1.11]	0.040 [1.01]		
				2-22*	0.035 [0.88]	0.031 [0.78]		

**Pullout force is for individual wires*

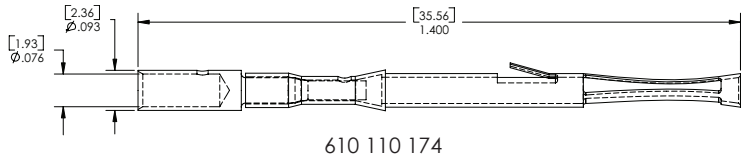
TRIPADDLE CONTACT PART # 610 110 128 REV B HAS BEEN OBSOLETED.
CHECK DIMENSIONS TO VERIFY YOUR PART MATCHES THOSE SHOWN HERE.

TRIPADDLE SIGNAL RECEIVER CONTACT ASSEMBLY

PART # 610 110 128 REV. B / 610 110 174



610 110 128 Rev. B



610 110 174

TOOLS REQUIRED
Crimp Tool, Part # 910 101 102
Locator, Part # 910 104 116

CRIMP TOOL SETUP

1. Set up the Crimp Tool, Part # 910 101 102 (**Figure A**), by loosening the latch-locking screw (turn counter-clockwise to loosen). Remove any previously used locator.
2. Insert the open end of the Locator, Part # 910 104 116 (**Figure B**), into the crimp tool locator retainer.
3. Slide the retaining latch toward the locator until the locator is securely locked into place. Tighten the latch-locking screw.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Adjust the crimp tool setting by pulling the microcrimp adjusting knob and turning it at the same time (clockwise increases, counter-clockwise decreases setting) until the desired setting is achieved on the microcrimp indicator (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 102 for pin gauge verification instructions.
2. Determine the strip length according to wire gauge (**Table 1**). Strip wire.

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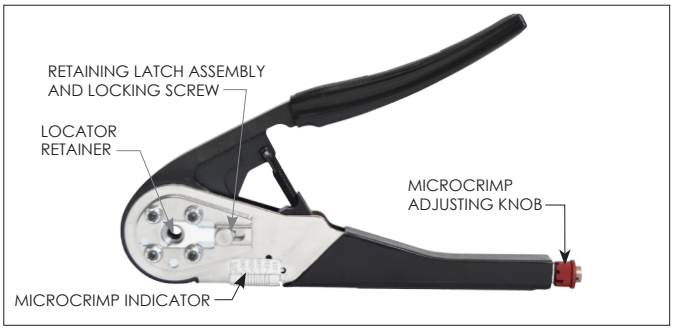


Figure A. Crimp Tool, Part # 910 101 102.

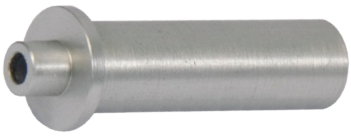


Figure B. Locator Part # 910 104 116.

Table 1.

CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110128 REV. B	910101102	910104116	0.300 [7.62]	14	0.063 [1.60]	0.059 [1.50]	10* [44.5*]	910110102
				16	0.059 [1.50]	0.055 [1.40]		
			0.260 [6.60]	18	0.055 [1.40]	0.051 [1.30]		
			0.300 [7.62]	2-20*	0.055 [1.40]	0.050 [1.27]		
				2-22*	0.046 [1.17]	0.042 [1.07]		

**Pullout force is for individual wires*

CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110174	910101102	910104116	0.200 [5.08]	14	0.063 [1.60]	0.059 [1.50]	10* [44.5*]	910110102
				16	0.059 [1.50]	0.055 [1.40]		
			0.190 [4.82]	18	0.055 [1.40]	0.051 [1.30]		
			0.200 [5.08]	2-20*	0.055 [1.40]	0.050 [1.27]		
				2-22*	0.046 [1.17]	0.042 [1.07]		

**Pullout force is for individual wires*

TRIPADDLE SIGNAL RECEIVER CONTACT ASSEMBLY

PART # 610 110 128 / 610 110 177 / 610 110 174

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION, CONTINUED

3. Hold the crimp tool parallel to the floor (**Figure C**). Insert the contact into the crimp tool. For contacts using the crimp contact locator, Part # 910 104 146, align the contact retaining tab (**Figure D**) with the positioning slot in the crimp contact locator and insert the contact into the crimp tool.

NOTE: The contact will drop completely into the crimp tool if properly positioned. If the contact does not drop completely into the crimp tool, remove the contact, ensure that the contact retaining tab is properly aligned with the contact crimp locator, and re-insert the contact into the crimp tool. Do not force the contact into the crimp tool, as contact damage will occur.

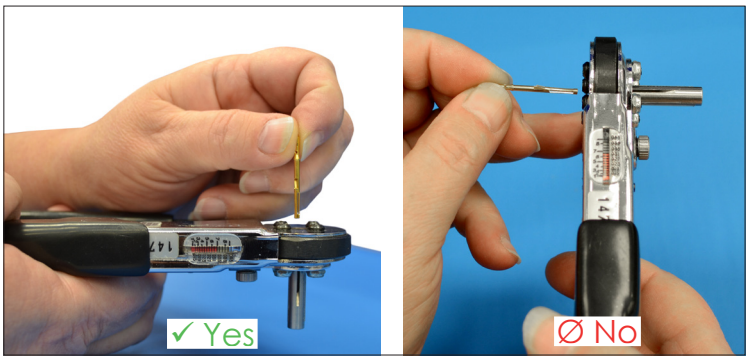


Figure C. Appropriate method for inserting contact into crimp tool.

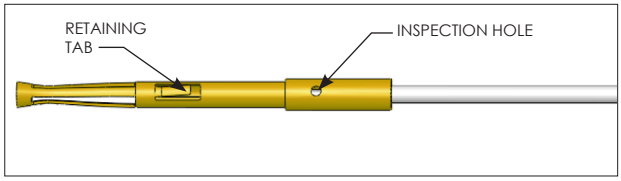


Figure D. Contact retaining tab must be aligned with the contact locator positioning slot. Shrink tubing only on Part # 610 110 174.

CONTACT SETUP AND CRIMPING

1. Insert stripped wire fully into the contact and squeeze the crimp tool handle until a positive stop is reached. The tool will release and return into a fully "open" position. Remove crimped contact and wire.

OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING THE CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT THE TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE THE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON THE BACK OF THE TOOL.

ACCEPTABLE CRIMP CRITERIA

1. Follow the instructions for tool setup to ensure the tool is ready for use.

2. Crimp the contact onto the respective wire according to the contact assembly instructions. Ensure that the crimp minimum is measured with an approved gauge pin.

3. The crimp must be between the inspection hole and the end of the contact to be acceptable. The crimp creates two distinctive indentions on four sides of the contact creating a square appearance. This is an acceptable result (**Figure E**).

4. Inspect the crimp to ensure none of the indentions are connected to the inspection hole (**Figure F**). If the indentions make contact with, or are above the inspection hole, the crimp is unacceptable.

5. Inspect the crimp to ensure none of the indentions are connected to the end of the contact. If the indentions make contact with the end of the contact, the crimp is unacceptable.

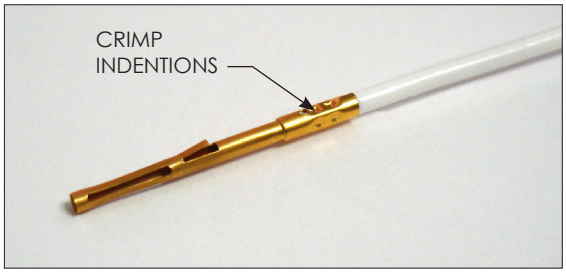


Figure E. Correct location of the crimp divots.

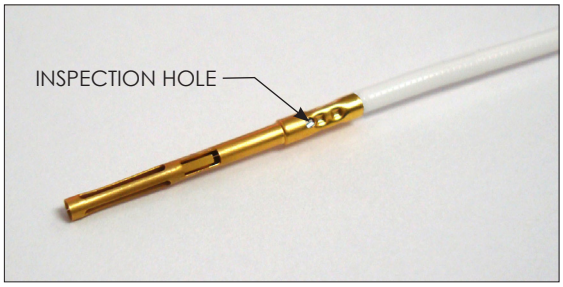
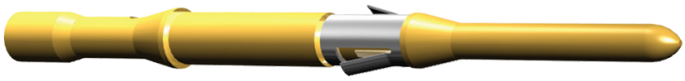


Figure F. The crimp region is between the inspection hole and the end.

TRIPADDLE SIGNAL ITA CONTACT ASSEMBLY

PART # 610 110 108 / 610 110 146 / 610 110 169



TOOLS REQUIRED
Crimp Tool, Part # 910 101 103
Locator, Part # 910 104 107

CRIMP TOOL SETUP

1. Set up Crimp Tool, Part # 910 101 103 (**Figure A**), by loosening the latch locking screw (counter-clockwise, until turning stops). Remove any previously used locator.
2. Insert the open end of Locator, Part # 910 104 107 (**Figure B**), into the crimp tool locator retainer.
3. Slide the retaining latch toward the locator until the locator is securely locked into place. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Adjust the crimp tool setting by pulling the microcrimp adjusting knob and turning it at the same time (clockwise increases, counter-clockwise decreases setting) until the desired setting is achieved on the microcrimp indicator (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 103 for pin gauge verification instructions.
2. Determine the strip length according to wire gauge (**Table 1**). *NOTE: if the wire insulation diameter is greater than 0.07 [1.78], the strip length should be 0.250 [6.35].*
3. Strip wire.

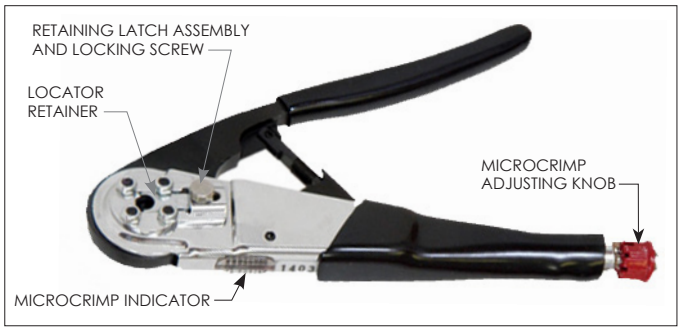


Figure A. Crimp Tool, Part # 910 101 103.

Figure B. Locator Part # 910 104 107.

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Table 1.

CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110108/ 610110146	910101103	910104107	0.200 [5.08]	20	0.037 [0.94]	0.033 [0.84]	10 [44.5]	910110102
				22	0.033 [0.84]	0.029 [0.74]		
				24	0.029 [0.74]	0.025 [0.64]		
			0.250 [6.35]	2-24*	0.037 [0.94]	0.033 [0.84]	8* [35.6]*	
			0.250 [6.35]	2-26*	0.033 [0.84]	0.029 [0.74]	4* [17.8]*	
				3-26*	0.037 [0.94]	0.033 [0.84]		
			0.250 [6.35]	2-28*	0.026 [0.66]	0.024 [061]	2* [8.9]*	
610110169	910101103	910104107	0.200 [5.08]	26	0.028 [0.71]	0.026 [0.66]	4 [17.8]	
				28	0.024 [0.61]	0.023 [0.58]	2* [8.9]*	
			0.200 [5.08]	30	0.022 [0.56]	0.020 [0.51]	1.0* [4.4]*	
			0.250 [6.35]	2-30*	0.026 [0.66]	0.025 [0.63]		

**Pullout force is for individual wires*

TRIPADDLE SIGNAL ITA CONTACT ASSEMBLY

PART # 610 110 108 / 610 110 146 / 610 110 169

CONTACT SETUP AND CRIMPING

1. Insert the contact into the crimp tool (**Figure C**).

2. Insert stripped wire fully into the contact and squeeze the crimp tool handle until a positive stop is reached. The tool will release and return into a fully "open" position. Remove crimped contact and wire.

OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING THE CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT THE TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE THE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON THE BACK OF THE TOOL.

ACCEPTABLE CRIMP CRITERIA

1. Follow the instructions for tool setup to ensure the tool is ready for use.

2. Crimp the contact onto the respective wire according to the contact assembly instructions. Ensure that the crimp minimum is measured with an approved gauge pin.

3. The crimp must be between the inspection hole and the end of the contact to be acceptable. The crimp creates two distinctive indentions on four sides of the contact creating a square appearance. This is an acceptable result (**Figure D**).

4. Inspect the crimp to ensure none of the indentions are connected to the inspection hole (**Figure E**). If the indentions make contact with, or are above the inspection hole, the crimp is unacceptable.

5. Inspect the crimp to ensure none of the indentions are connected to the end of the contact. If the indentions make contact with the end of the contact, the crimp is unacceptable.

Figure D. Correct location of the crimp divots.

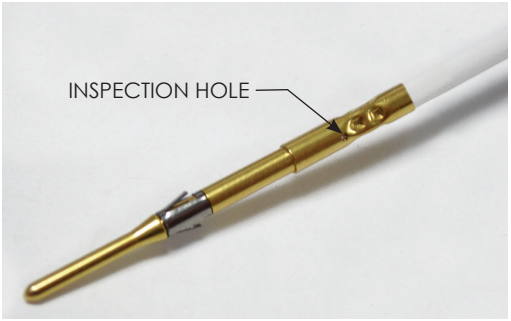


Figure E. The crimp region is between the inspection hole and the end.

TRIPADDLE SIGNAL ITA CONTACT ASSEMBLY

PART # 610 110 129 / 610 110 147 / 610 110 172 / 610 110 173 / 610 110 146

TOOLS REQUIRED

Crimp Tool, Part # 910 101 102 / 910 101 103
Locator, Part # 910 104 118 / 910 104 107

CRIMP TOOL SETUP

1. Set up 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 Locator, Part # 910 104 118 (**Figure B**), into the crimp tool locator retainer.
3. Slide the retaining latch toward the locator until the locator is securely locked into place. Tighten the latch locking screw.

CRIMP TOOL ADJUSTMENT AND WIRE PREPARATION

1. Adjust the crimp tool setting by pulling the microcrimp adjusting knob and turning it at the same time (clockwise increases, counter-clockwise decreases setting) until the desired setting is achieved on the microcrimp indicator (**Table 1**). Verify with pin gauge. For more information about gauge pins, visit vpc.com/gaugepins. See calibration instructions for Part # 910 101 102 for pin gauge verification instructions.
2. Determine the strip length according to wire gauge (**Table 1**). Strip wire.

Continued on next page...

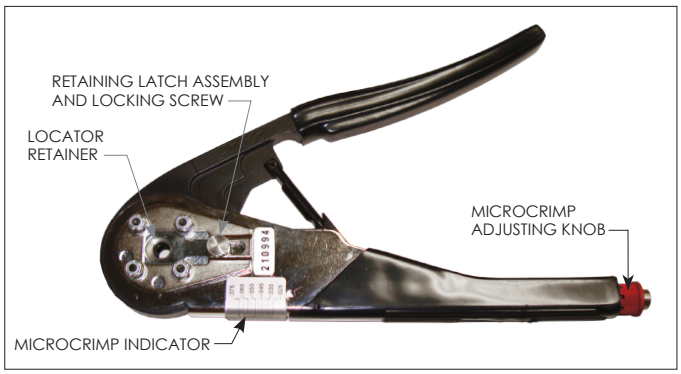


Figure A. Crimp Tool, Part # 910 101 102.

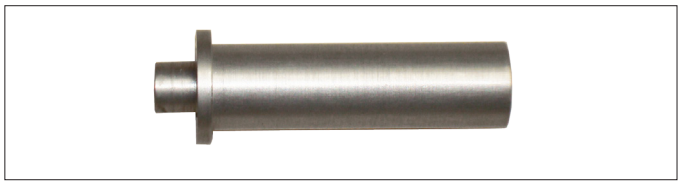


Figure B. Locator Part # 910 104 118.

Table 1.

CONTACT	CRIMP TOOL	LOCATOR DIE	STRIP LENGTH (IN [MM])	WIRE GAUGE	CRIMP SETTING (IN [MM])		PULLOUT FORCE (LBS [N])	EXTRACTION TOOL
					MAX	MIN		
610110146	910101103	910104107	0.200 [5.08]	20	0.037 [0.94]	0.033 [0.84]	10 [44.5]	910110102
				22	0.033 [0.84]	0.029 [0.74]		
				24	0.029 [0.74]	0.025 [0.64]		
			0.250 [6.35]	2-24*	0.037 [0.94]	0.033 [0.84]	8* [35.6]*	
			0.250 [6.35]	2-26*	0.033 [0.84]	0.029 [0.74]	4* [17.8]*	
610110129 610110147	910101102	910104118	0.300 [7.62]	14	0.063 [1.60]	0.059 [1.50]	10* [44.5]*	
				16	0.055 [1.39]	0.051 [1.29]		
			0.260 [6.60]	18	0.049 [1.24]	0.045 [1.14]		
			0.300 [7.62]	2-20*	0.048 [1.21]	0.044 [1.11]		
				2-22*	0.044 [1.11]	0.040 [1.01]		
610110172 610110173	910101102	910104118	0.200 [5.08]	14	0.063 [1.60]	0.059 [1.45]	10* [44.5]*	
				16	0.055 [1.39]	0.051 [1.29]		
			0.190 [4.82]	18	0.049 [1.24]	0.045 [1.14]		
			0.200 [5.08]	2-20*	0.048 [1.21]	0.044 [1.11]		
				2-22*	0.044 [1.11]	0.040 [1.01]		

**Pullout force is for individual wires*

TRIPADDLE SIGNAL ITA CONTACT ASSEMBLY

PART # 610 110 129 / 610 110 147 / 610 110 172 / 610 110 173

CONTACT SETUP AND CRIMPING

1. Insert the contact into the crimp tool.

2. Insert stripped wire fully into the contact and squeeze the crimp tool handle until a positive stop is reached. The tool will release and return into a fully "open" position. Remove crimped contact and wire.

OBSERVE PRECISION RATCHET ACTION BY OPENING AND CLOSING THE CRIMP TOOL FULLY SEVERAL TIMES. NOTE THAT THE TOOL CANNOT BE OPENED WITHOUT COMPLETING A CYCLE. NEVER ATTEMPT TO DISASSEMBLE THE TOOL. NEVER TIGHTEN OR LOOSEN STOP NUTS ON THE BACK OF THE TOOL.

ACCEPTABLE CRIMP CRITERIA

1. Follow the instructions for tool setup to ensure the tool is ready for use.

2. Crimp the contact onto the respective wire according to the contact assembly instructions. Ensure that the crimp minimum is measured with an approved gauge pin.

3. The crimp must be between the inspection hole and the end of the contact to be acceptable. The crimp creates two distinctive indentions on four sides of the contact creating a square appearance. This is an acceptable result (**Figure D**).

4. Inspect the crimp to ensure none of the indentions are connected to the inspection hole (**Figure E**). If the indentions make contact with, or are above the inspection hole, the crimp is unacceptable.

5. Inspect the crimp to ensure none of the indentions are connected to the end of the contact. If the indentions make contact with the end of the contact, the crimp is unacceptable.

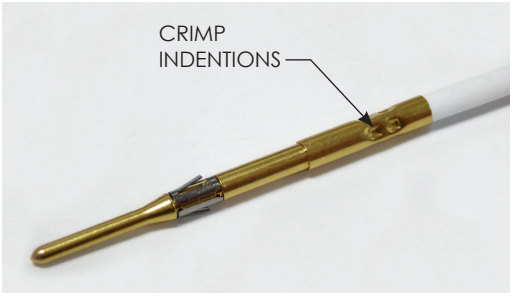


Figure D. Correct location of the crimp divots.

Figure E. The crimp region is between the inspection hole and the end.

TRIPADDLE SIGNAL WIRE-WRAP CONTACT TERMINATION

PART # 610 110 104 / 610 110 113 / 610 110 145

TOOLS REQUIRED
Wire Stripping Tool
Wire-Wrap Gun
Wire-Wrap Bit

ASSEMBLY INSTRUCTIONS

NOTE: VPC performs wire-wrap terminations in accordance with IPC-A-620 standards.

NOTE: Wire-wraps must be performed with solid wire. Stranded wire will not work for wire wrapping. VPC recommends 26 to 30 AWG wire.

1. Cut and strip the wire. Depending on the style of wire-wrap gun and bit used, the wire is either stripped during the wrapping process or needs to be stripped before the wrapping process.

NOTE: Refer to the user manual of your wire-wrap gun to determine in which fashion your tool operates.

2. Insert the wire into the wire slot on the wire-wrap gun. With modified and standard bits insert the wire in the wire slot as deep as possible. With C.S.W. bits the wire has to be inserted all the way through the wire slot until it goes out of the cutting window. The simplified sleeve of the manual tool has no notch.

3. Hold the wire in place by hand (**Figure A**).

4. Position the terminal hole of the wire-wrap gun on the post to be wrapped. The wire-wrap gun should be parallel with the contact. The wire must continue to be held in place by hand.

5. Engage the wire-wrap gun to wrap the wire. During the wrapping operation, gently press the tool forward onto the wire-wrap post. The turns of the connection have to be nicely wrapped against the other. Do not push too hard. Do not pull backwards.

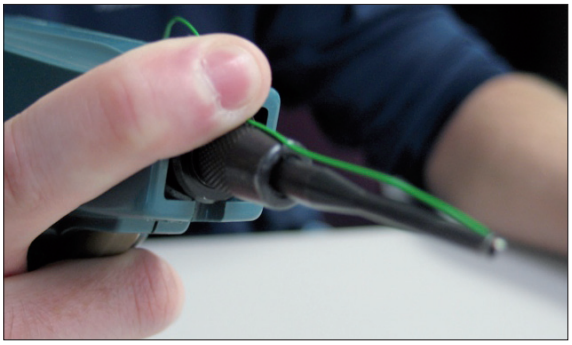


Figure A. Hold the wire in place by hand.

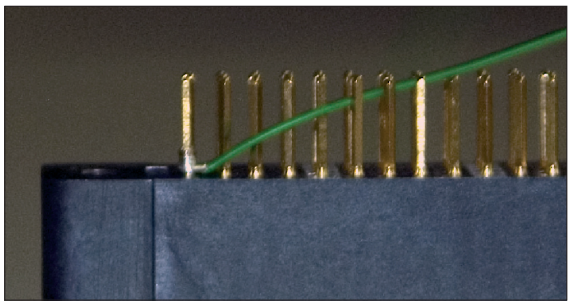


Figure B. Completed wrapped wire.

TRIPADDLE SIGNAL RECEIVER CONTACT INSTALLATION AND REMOVAL

PART # 610 110 101 / 610 110 104 / 610 110 125 / 610 110 128

610 110 167 / 610 110 171 / 610 110 174 / 610 110 177

TOOLS REQUIRED

$^{5}/_{64}$ Allen Wrench
Phillips Head Screwdriver (for Part # 510 104 149 and iCon Modules)
TriPaddle Receiver/ITA Extraction Tool, Part # 910 110 102

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 Section 1 or 3 of this User's Manual.

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

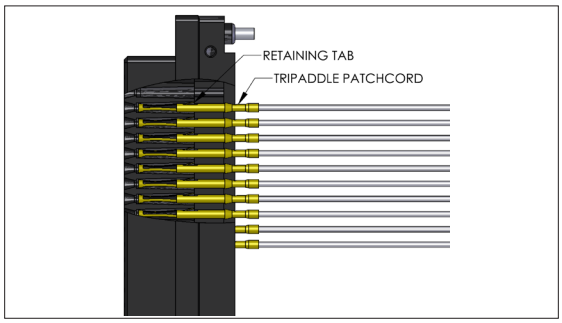


Figure A. Contacts inserted into the module.

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 Section 5 of this User's Manual.

2. Use a $^{5}/_{64}$ Allen wrench or Phillips head screwdriver to remove the two 2-56 screws located at the top and bottom of the module (**Figure B**).

3. Grasp the module halves and apply force in opposite directions, rocking the ends of the module while slightly pulling the top of the module away from the bottom section. Be sure to open both sides of the module simultaneously or contacts could be damaged.

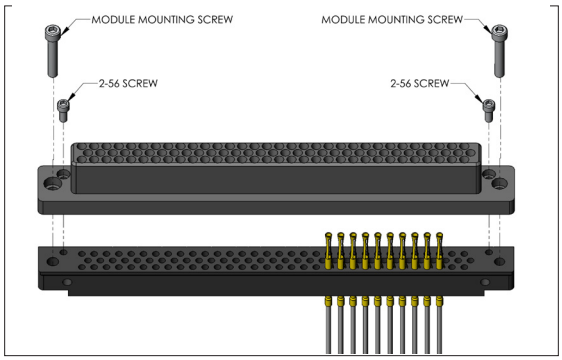


Figure B. Open both sides of the module simultaneously or pins could be damaged.

4. Place the TriPaddle Receiver/ITA Extraction Tool, Part # 910 110 102 (**Figure C**), 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.

5. Once the extraction tool is seated and the retaining tab on the contact are compressed, press the tool into the module. The contact will be pushed out of the rear of the module.

DO NOT PRESS THE TOOL INTO THE MODULE UNTIL THE TIP OF THE EXTRACTION TOOL HAS FULLY SEATED INTO THE MODULE AND COMPRESSED THE RETAINING RING TAB ON THE CONTACT.

6. On the opposite side of the module from the extraction tool, grasp the contact and hold it while removing the extraction tool. This will prevent the contact from being pulled back into the module while the tool is being removed.

7. Replace the module cap using both hands to push the separated halves together. Replace and tighten the module retaining screws to a maximum torque of 1.5 in-lbs [0.16 Nm].

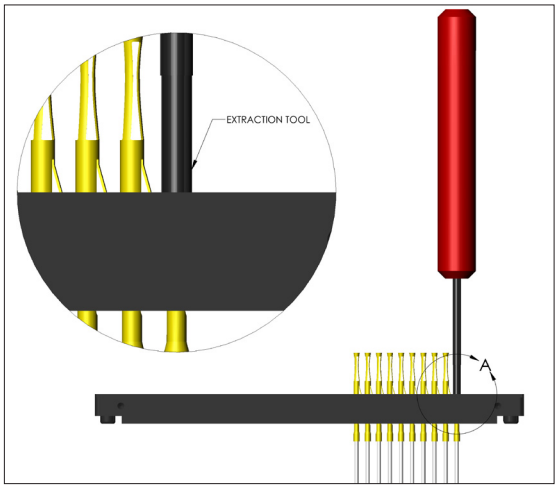


Figure C. Ensure that the tool is kept perpendicular to the module face to avoid damage to the contact or tool.

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's Manual for the other contact type for extraction instructions.

TRIPADDLE SIGNAL ITA CONTACT INSTALLATION AND REMOVAL

PART # 610 110 108 / 610 110 113 / 610 110 129 / 610 110 145 / 610 110 146

610 110 147 / 610 110 169 / 610 110 172 / 610 110 173

TOOLS REQUIRED

Extraction Tool, Part # 910 110 102

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 Section 2 or 3 of this User's Manual.

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

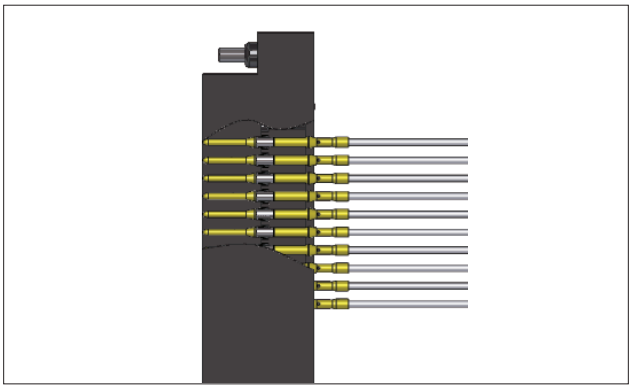


Figure A. Contacts inserted into the module.

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 Section 5 of this User's Manual.

2. Place the TriPaddle Receiver/ITA Extraction Tool, Part # 910 110 102 (**Figure B**), 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 tabs on the retaining ring are compressed, press the tool into the module, and the contact will be pushed out of the rear of the module.

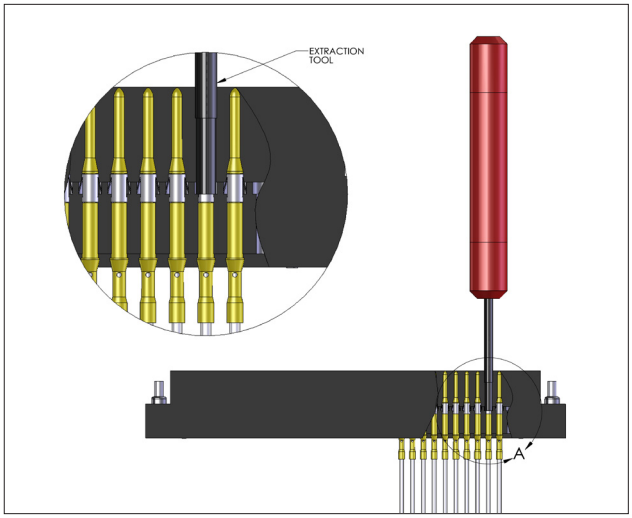


Figure B. Ensure that the tool is kept perpendicular to the module face to avoid damage to either the contact or tool.

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

4. On the opposite side of the module from the extraction tool, grasp the contact and hold it while removing the extraction tool. This will prevent the contact from being pulled back into the module while the tool is being removed.

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's Manual for the other contact type for extraction instructions.

TRIPADDLE SIGNAL STANDARD/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: Push or pull the module evenly from the top and bottom to prevent damage to the module.

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

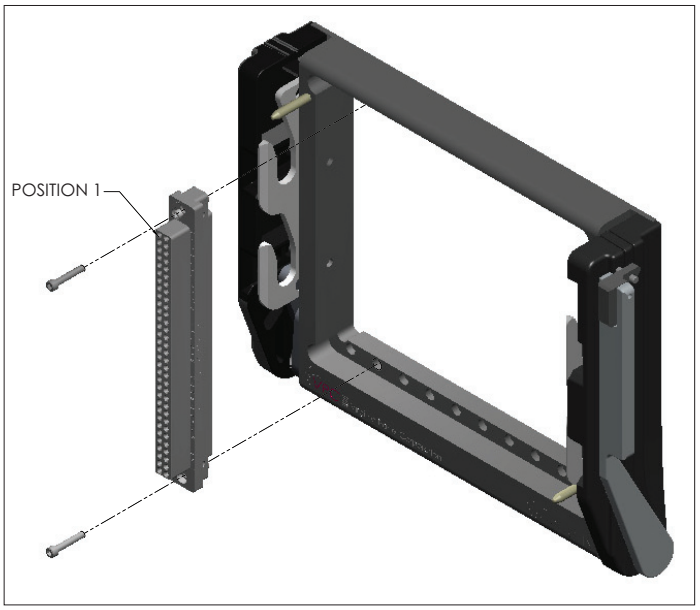


Figure A. Receiver Module.

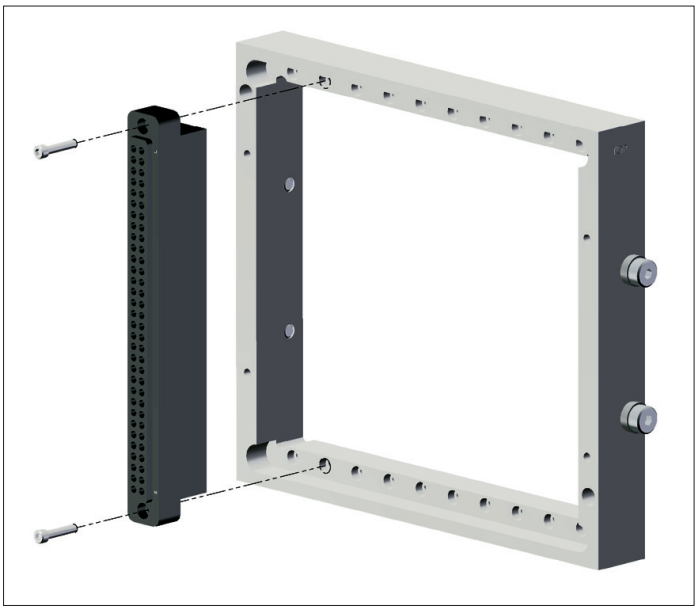


Figure B. ITA Module.

TRIPADDLE SIGNAL ICON MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED
Phillips Head Screwdriver

INSTALLATION INSTRUCTIONS

NOTE: The receiver strain relief plate or the ITA cover may need to be removed prior to installing or removing an iCon module. Please refer to the appropriate User's Manual for instructions on how to perform these steps.

1. Place the module in the receiver or ITA until the upper and lower module screws touch the mating holes in the inner frame. Install modules such that Position 1 is located at the top of the ITA/ receiver frame.

2. Using a Phillips head screwdriver, 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 1.5 in-lbs [0.16 Nm].

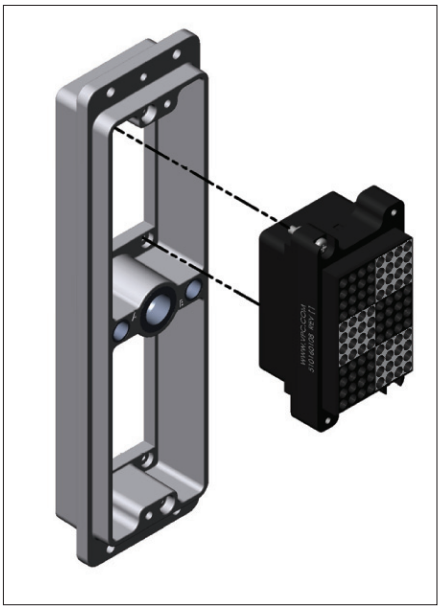


Figure A. Receiver Module.

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: Push or pull the module evenly from the top and bottom to prevent damage to the module.

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

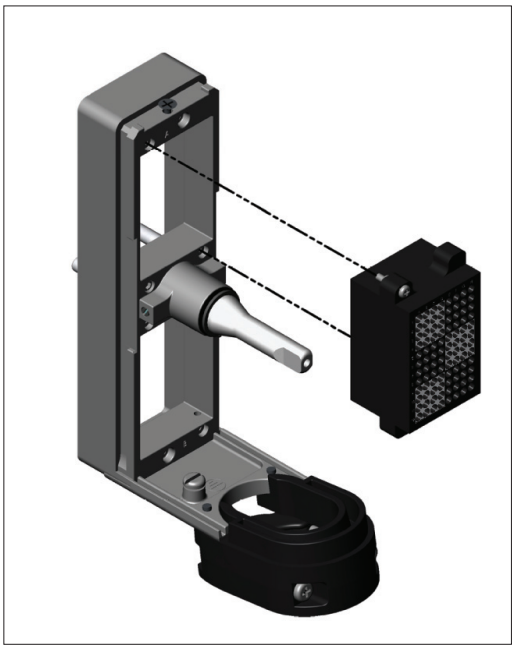


Figure B. ITA Module.

TRIPADDLE SIGNAL CUSTOM RECEIVER PCB ADAPTER INSTALLATION AND REMOVAL

PART # 510 104 135 / 510 104 187

TOOLS REQUIRED

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

PCB ADAPTER INSTALLATION INSTRUCTIONS

1. Solder the header to the PCB (IPC-A-610 standard recommended for PCB design). The PCB must be manufactured with header installation area complying with the recommended PCB layout (**Figure A** or **B**).

2. Place the module in the receiver 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.

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

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

5. Repeat this sequence until the module is seated. Torque the screws 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.

Dimensions shown: [millimeters]
inches

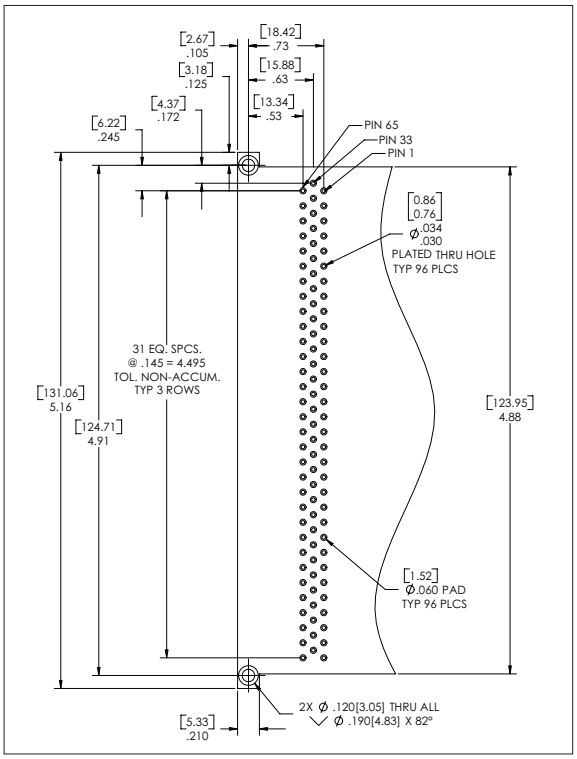


Figure A. Part # 510 104 135 Recommended Board Layout. Solder Side Shown.

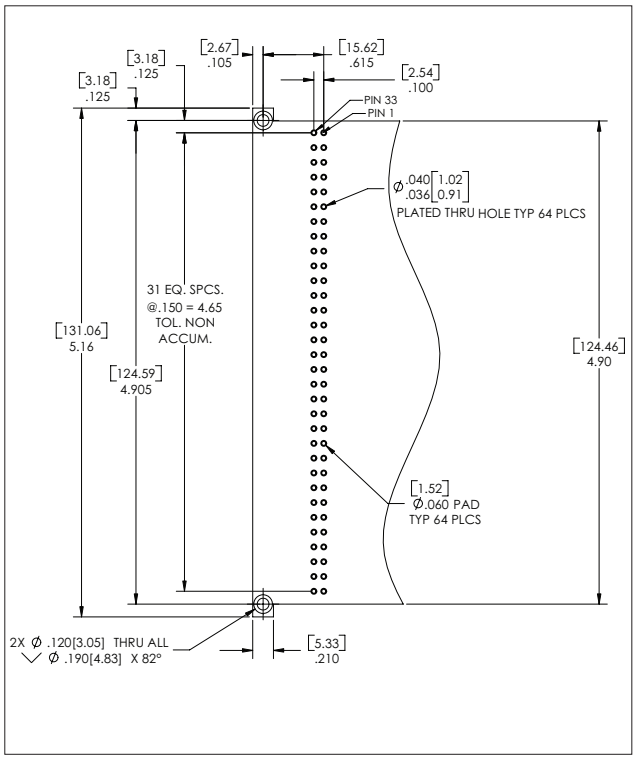


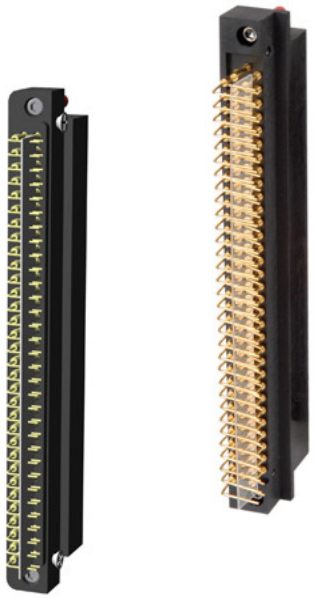
Figure B. Part # 510 104 187 Recommended Board Layout. Solder Side Shown.

TRIPADDLE SIGNAL CUSTOM ITA PCB ADAPTER INSTALLATION AND REMOVAL

PART # 510 108 112 / 510 108 125

TOOLS REQUIRED

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



PCB ADAPTER INSTALLATION INSTRUCTIONS

1. Solder the header to the PCB (IPC-A-610 standard recommended for PCB design). The PCB must be manufactured with header installation area complying with the recommended PCB layout (**Figure A or B**).

2. Place the module in the 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.

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

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

5. Repeat this sequence until the module is seated. Torque the screws 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 ITA.

Dimensions shown: [millimeters]
inches

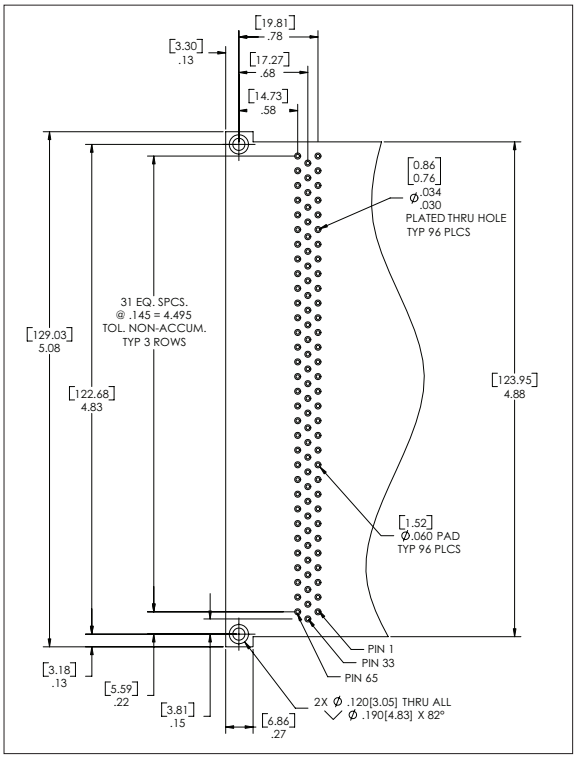


Figure A. Part # 510 108 125 Recommended Board Layout. Solder Side Shown.

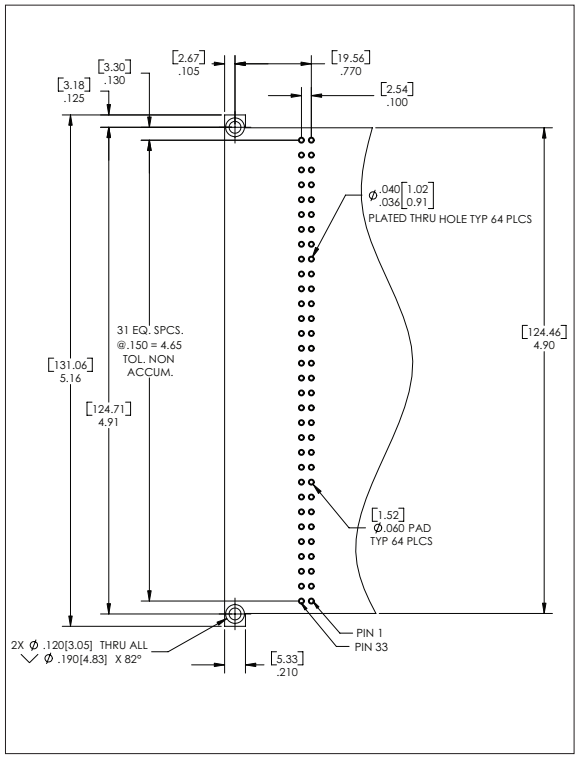


Figure B. Part # 510 108 112 Recommended Board Layout. Solder Side Shown.

CROSS REFERENCE TABLES

	STANDARD/ 90 SERIES MODULES						CASS/ 80 SERIES MODULES		ICON MODULES					CRIMP TOOLS		LOCATORS			EXTRACTION
RECEIVER CONTACTS	510 104 134	510 104 136	510 104 149	510 104 206	510 104 243	510 104 261	510 113 120	510 113 125	510 160 103	510 160 108	510 160 109	510 160 111	510 160 115	910 101 102	910 101 103	910 104 116	910 104 127	910 104 146	910 110 102
610 110 101	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X
610 110 104	X	X	X	X	X	X	X	X	X	X	X	X	X						X
610 110 125	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X
610 110 128	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X			X
610 110 167	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X
610 110 171	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X		X
610 110 174	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X			X
610 110 177	X	X	X	X	X	X	X	X	X	X	X	X	X	X				X	X

	STANDARD/ 90 SERIES MODULES						CASS/ 80 SERIES MODULES		ICON MODULES					CRIMP TOOLS		LOCATORS		EXTRACTION
ITA CONTACTS	510 108 101	510 108 126	510 108 131	510 108 178	510 108 210	510 108 245	510 114 106	510 114 107	510 161 103	510 161 108	510 161 109	510 161 111	510 161 115	910 101 102	910 101 103	910 104 107	910 104 118	910 110 102
610 110 108	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X
610 110 113	X	X	X	X	X	X	X	X	X	X	X	X	X					X
610 110 129	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X
610 110 145	X	X	X	X	X	X	X	X	X	X	X	X	X					X
610 110 146	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X
610 110 147	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X
610 110 169	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X
610 110 172	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X
610 110 173	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X