FIBER OPTIC CONTACT & MODULE USER MANUAL

INDEX *(CLICK TO NAVIGATE TO PAGE)*

PAGE

Please note that any printed or downloaded User Manual may not reflect the most current revisions.
The information contained herein is subject to change.
For the most current information available, visit vpc.com.

RECEIVER CONTACT INSTALLATION AND EXTRACTION

PART # 610 113 172, 910 112 125

TOOLS REQUIRED

0.050” Allen Wrench
Flat Head Screwdriver
Phillips Screwdriver for iCon modules
Mini Fiber Optic Extraction Tool

INSTALLATION

1. Remove the dust cap from the VPC contact to be inserted.Insert the assembled contact into the back (wiring side) of the assembled module.

2. The contact can only be installed from one side. Ensure that the contact is squared up with the corresponding module location.

3. Once in place, pull the wire slightly to ensure that the contact is seated.

EXTRACTION

1. Remove the module from the receiver frame. Use the Allen wrench to remove the module cap screws located at the top, middle and bottom of the module (**Figure B**). For 37 and 16/16 position use a Phillips screw driver to remove the (2) 2-56 screws.

2. Grasp the module halves and apply force in opposite directions, rocking the ends of the module slightly while pulling the module cap or top half of the module away from the mating bottom section.

3. Be sure to open both sides of the module simultaneously or contacts could be damaged.Place the Mini Fiber Optic Extraction tool over the contact to be removed (**Figure C**). **Be sure to keep the tool perpendicular to the surface of the module**, otherwise the tool or contact could be damaged.

4. Once the extraction tool is seated and the retaining ring tabs on the contact are compressed, push the tool into the module. The contact will be pushed out of the rear of the module.

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

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.

WHEN HANDLING FIBER OPTIC CABLES DO NOT LOOK INTO THE ENDS OF ANY CONNECTOR. LASER LIGHT COULD CAUSE PERMANENT EYE DAMAGE.

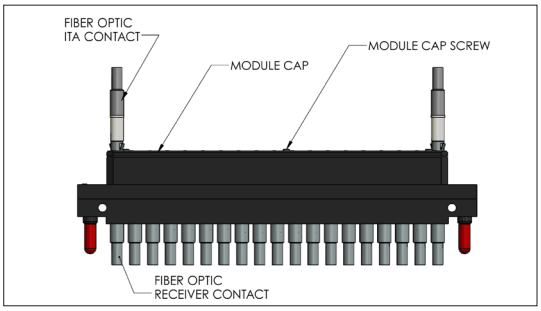

Figure A.

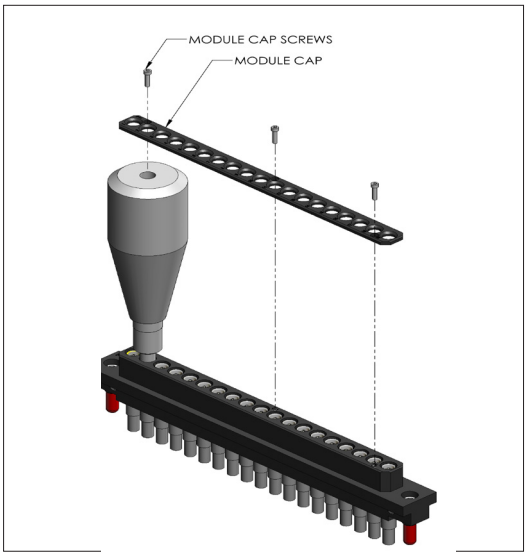

Figure B.

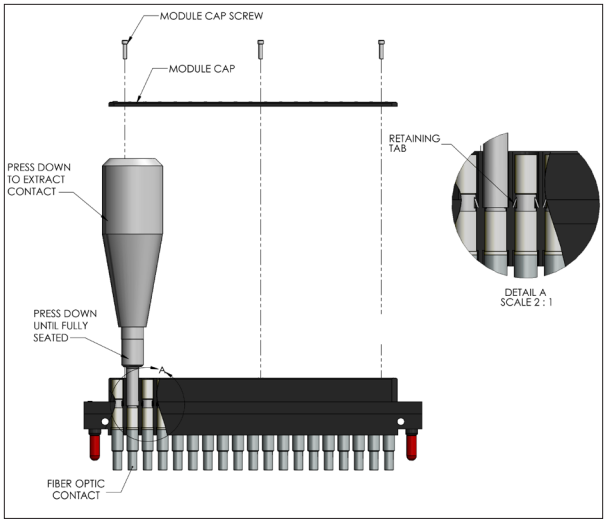

Figure C. Be sure to keep the tool perpendicular to the module to avoid damaging contacts.

RETURN TO INDEX

ITA CONTACT INSTALLATION AND EXTRACTION

PART # 610 113 173, 910 112 125

INSTALLATION

1. Remove the dust cap from the VPC contact to be inserted.

2. Insert the assembled 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.

3. Reinstall dust cap.

REMOVAL

1. Remove the module from the ITA frame.

2. Place the extraction tool (**Figure A**) over the contact to be removed. Use care to keep the tool perpendicular to the surface of the module, otherwise the tool or contact could be damaged. 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. The contact will be pushed out of the rear of the module (**Figure B**).

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.

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.

WHEN HANDLING FIBER OPTIC CABLES DO NOT LOOK INTO THE ENDS OF ANY CONNECTOR. LASER LIGHT COULD CAUSE PERMANENT EYE DAMAGE.

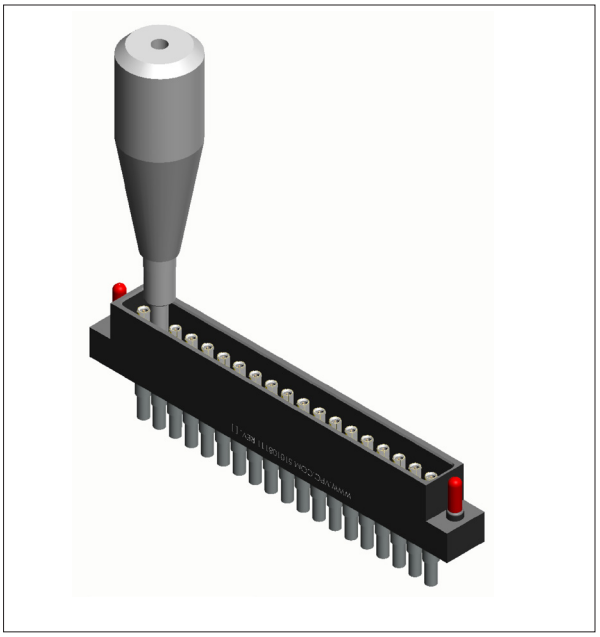

Figure A.

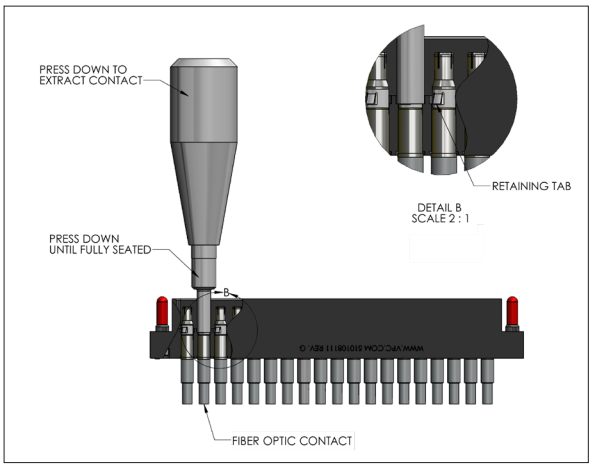

Figure B. Be sure to keep the tool perpendicular to avoid bent contacts.

RETURN TO INDEX

STRAIN RELIEF GUIDE

PART # 510 109 116, 510 109 298, 510 109 296

1. Ensure that the bend radius exceeds the minimum bend radius of the fiber optic wire, at all times. The minimum bend radius for fiber optic wire is 15 x the diameter of the cable (**Figure A**).
   Max Bend for 62.5/125µ or 62.5/125µ Multimode: 1.77" [45 mm]
   Max Bend for POF: 1.18" [30 mm]

2. The bend radius min. must be followed when using the twist lock cable ties. Use two sets of twist lock cable ties for each wire.

3. For receiver side wires, leave a slight amount of slack in the cable when securing them to the strain relief plate to allow contacts to align when the modules are engaged (**Figure B**).

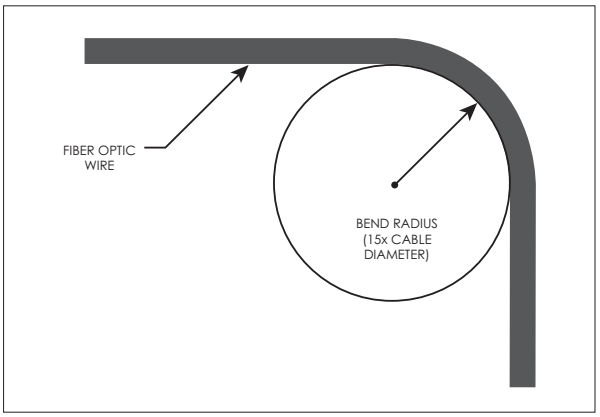

Figure A. Minimum bend radius is 15 x the diameter of the wire.

TAKE CARE NOT TO CRUSH FIBER OPTIC WIRE WHEN CINCHING THE TWIST LOCK WIRE TIE.

WHEN HANDLING FIBER OPTIC CABLES, DO NOT LOOK INTO THE ENDS OF ANY CONNECTOR. LASER LIGHT COULD CAUSE PERMANENT EYE DAMAGE.

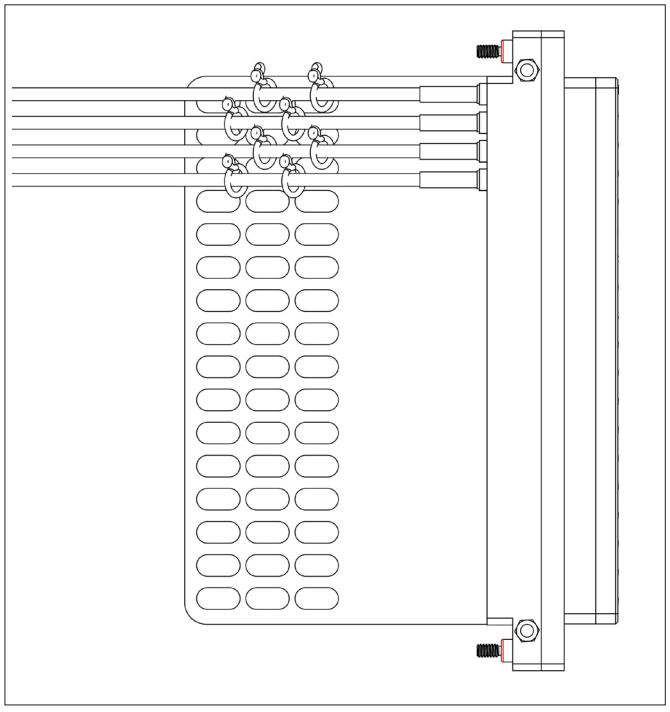

Figure B. Use two twist lock cable ties for each wire. Make sure to cinch the ties loosely enough so the wire can move freely when the modules are engaged.

RETURN TO INDEX

90 SERIES MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED
3/32 Allen Wrench

INSTALLATION

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 Pin 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 [0.23 Nm].

REMOVAL

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.

WHEN HANDLING FIBER OPTIC CABLES DO NOT LOOK INTO THE ENDS OF ANY CONNECTOR. LASER LIGHT COULD CAUSE PERMANENT EYE DAMAGE.

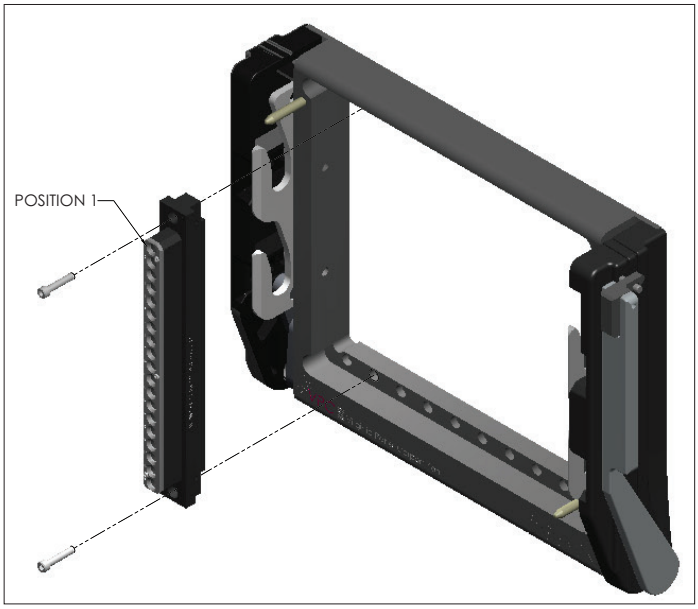

Figure A. Receiver Module.

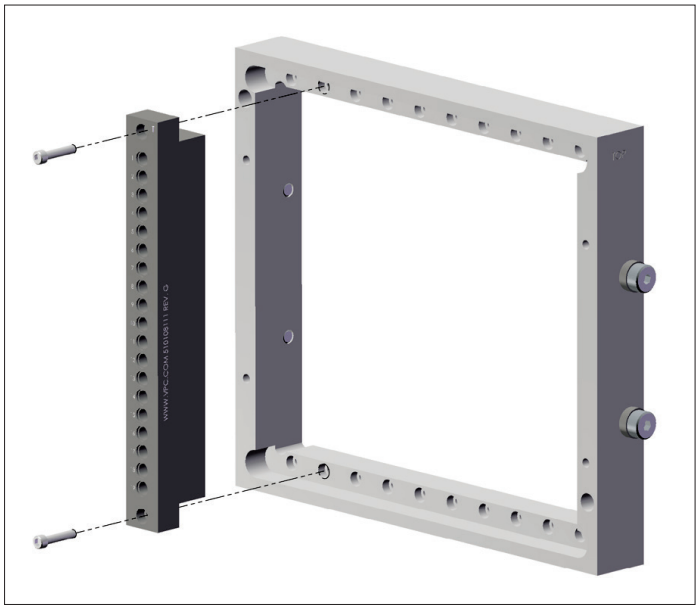

Figure B. ITA Module.

RETURN TO INDEX

ICON MODULE INSTALLATION AND REMOVAL

TOOLS REQUIRED
Phillips Head Screwdriver

INSTALLATION

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 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].

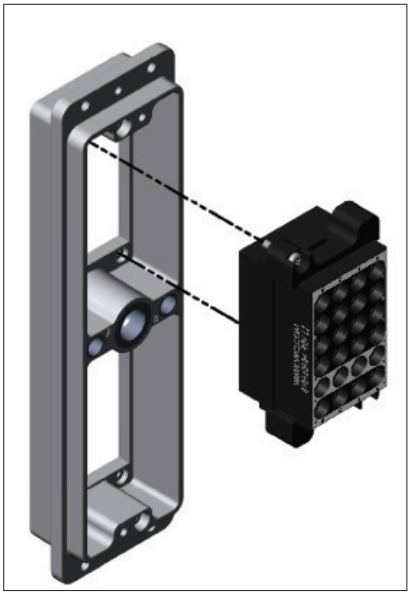

Figure A. Receiver Module.

REMOVAL

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.

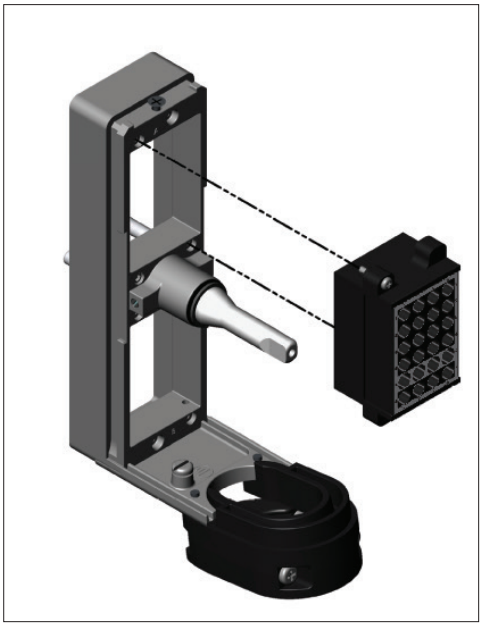

Figure B. ITA Module.

WHEN HANDLING FIBER OPTIC CABLES DO NOT LOOK INTO THE ENDS OF ANY CONNECTOR. LASER LIGHT COULD CAUSE PERMANENT EYE DAMAGE.

RETURN TO INDEX

CLEANING MULTIMODE RECEIVER CONTACTS

PART # 910 121 192, 610 113 172

CLEANING

NOTE: The pen tool is the recommended tool for cleaning fiber contact tips.

1. Remove guide cap from pen tool (**Figure A)**.
2. Insert tip of pen tool into the receiver contact (**Figure B**). Be careful not to slant the tool when inserting into the contact.
3. Grasp pen tool body and push forward to start cleaning the contact end face. A click sound indicates the end of the cleaning process. Put guide cap on after use.

DO NOT USE FORCE DURING THE INSERTION OF THE PEN TOOL INTO THE CONTACT. THIS MAY CAUSE DAMAGE TO CONTACT AND PEN TOOL.

IF PUSHING THE PEN TOOL BODY FORWARD IS INHIBITED, STOP AND ENSURE THERE IS NO DEBRIS HINDERING THE CLEANING PROCESS.

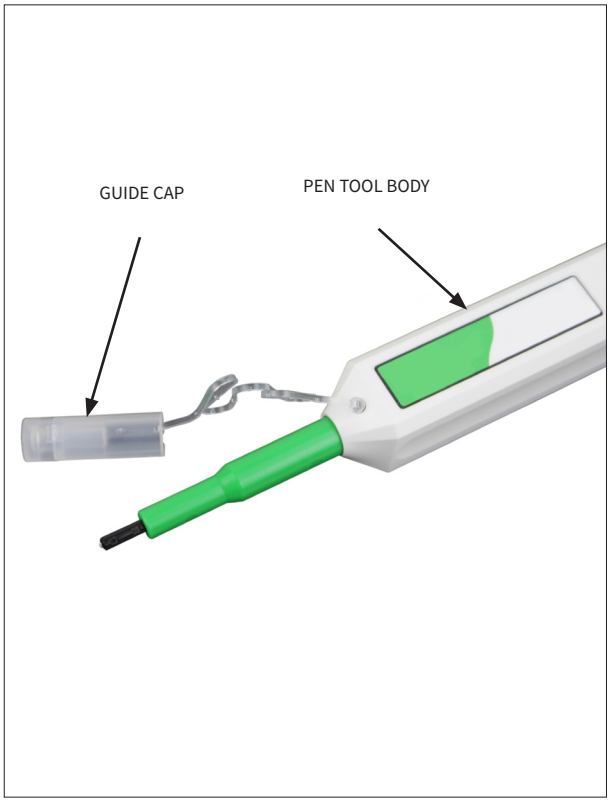

Figure A. Remove guide cap.

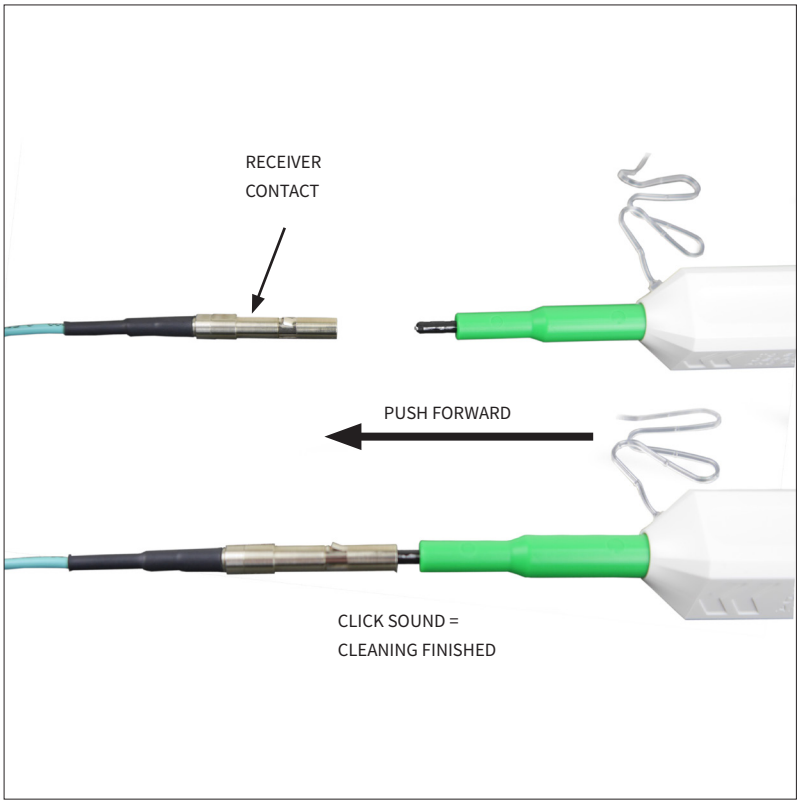

Figure B. Insert tool into the receiver contact.

RETURN TO INDEX

CLEANING MULTIMODE ITA CONTACTS

PART # 910 121 192, 610 113 173

CLEANING

NOTE: The pen tool is the preferred tool for cleaning fiber contact tips.

1. Remove cover from guide cap on pen tool as shown in (**Figure A)**.
2. Insert ITA contact into guide cap as shown in (**Figure B)**.Be careful not to slant the tool when inserting into the contact.
3. Grasp pen tool body and push forward to start cleaning the contact end face. A click sound indicates the end of the cleaning process. Put cover back on after use.

DO NOT USE FORCE DURING THE INSERTION OF THE PEN TOOL INTO THE CONTACT. THIS MAY CAUSE DAMAGE TO CONTACT AND PEN TOOL.

IF PUSHING THE PEN TOOL BODY FORWARD IS INHIBITED, STOP AND ENSURE THERE IS NO DEBRIS HINDERING THE CLEANING PROCESS.

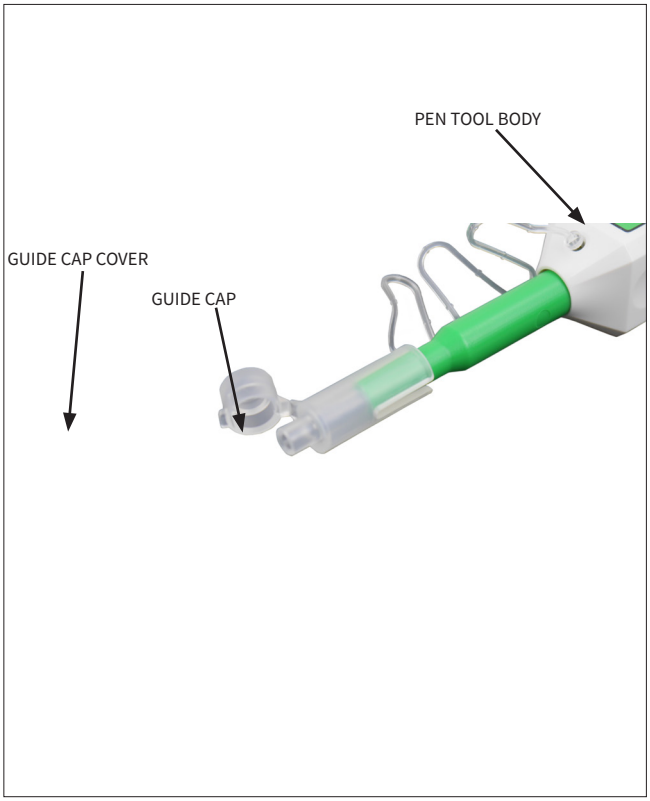

Figure A. Remove Guide Cap Cover.

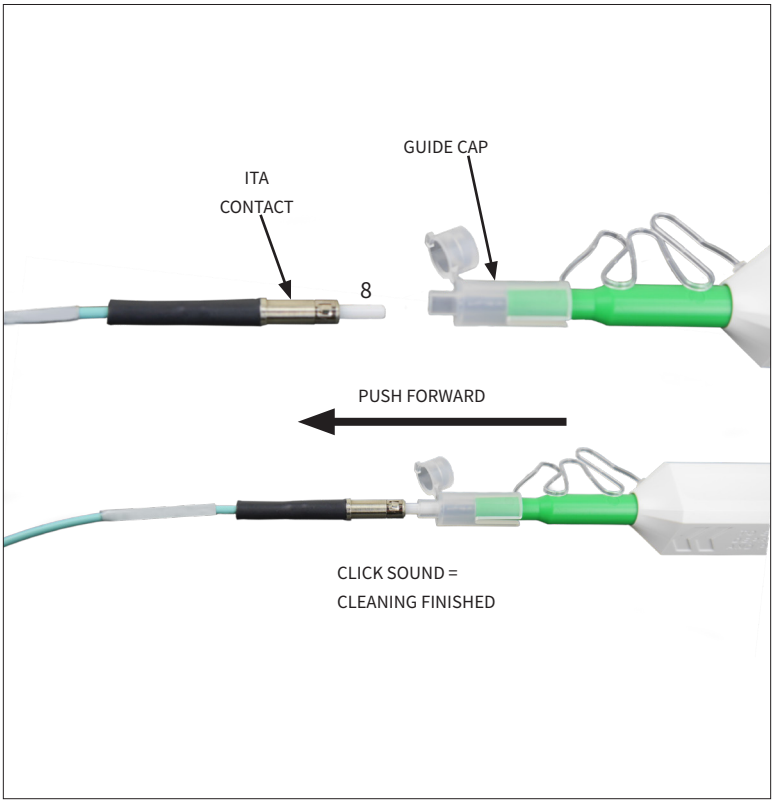

Figure B. Insert ITA contact into Guide Cap

RETURN TO INDEX

CONTACT AND MODULE CARE

PART # 510 108 189, 510 109 295, 510 104 227, 510 109 294, 510 109 501, 910 121 170

ALL MINI COAX MODULES

MAKE SURE ALL LASER LIGHT SOURCES ARE TURNED OFF BEFORE CLEANING. LASER LIGHT CAN PERMANENTLY DAMAGE YOUR EYES.

FOLLOW MANUFACTURER'S DIRECTIONS FOR USING PRESSURIZED CANS. DO NOT TIP OR SHAKE CAN DURING USE.

WEAR SAFETY GLASSES OR GOGGLES WHEN CLEANING MODULES. PARTICLES AND/OR ALCOHOL COULD BE PROJECTED INTO YOUR EYES BY THE PRESSURIZED CLEANER.

The cleanliness of fiber optic contacts is extremely critical in order to maintain high performance and extended life. Modules should be cleaned before initial usage and then after any extended storage period. The dust cover should be in place any time the ITA is not mated with the receiver. Also, contacts should be cleaned whenever questionable readings are encountered.

NOTE: The pen tool referenced earlier in the manual is recommended for cleaning fiber contact tips.

CLEANING ITA MODULE (INSTALLED CONTACTS)

1. Remove the dust caps from the ITA contacts.
2. Use a can of optical grade pressurized duster to clean the module by thoroughly spraying the inside of the casing containing the termini.
3. Saturate a clean foam tip with optical grade alcohol and wipe the end of an individual contact.
4. Immediately dry the contact with a dry foam tip.
5. Repeat the alcohol cleansing process for all existing contacts.
6. Reinstall the dust cap on the ITA contact.

CLEANING RECEIVER MODULE (INSTALLED CONTACTS)

1. Remove the optional protective cover from the receiver module.
2. Use an alcohol wipe to clean the top and sides of the module.
3. Saturate a clean foam tip with optical grade alcohol and insert into an individual alignment sleeve, wipe the end of the contact.
4. Immediately dry the sleeve using a can of optical grade pressurized duster that has an extension tube ending with a small tip designed to fit inside the alignment sleeve.
5. Clean the inside of the module cover with an alcohol wipe and allow it to dry.
6. Reinstall the dust cover on the receiver module.

RETURN TO INDEX

CROSS REFERENCE TABLES

	STANDARD/ 90 SERIES RECEIVER MODULES				ICON RECEIVER MODULES			EXTRACTION	CLEANING	CLEANING	STANDARD/ 90 SERIES MODULE PROTECTIVE COVER
RECEIVER CONTACTS	510 104 120	510 104 150	510 104 301	510 104 243	510 160 102	510 160 103	510 160 104	910 112 125	910 121 170	910 121 192	510 109 501
610 113 170	X	X	X	X	X	X	X	X	X		X
610 113 172	X	X	X	X	X	X	X	X	X	X	X

	STANDARD/ 90 SERIES ITA MODULES				ICON ITA MODULES			EXTRACTION	CLEANING	CLEANING
ITA CONTACTS	510 108 111	510 108 132	510 108 276	510 108 210	510 161 102	510 161 103	510 161 104	910 112 125	910 121 170	910 121 192
610 113 171	X	X	X	X	X	X	X	X	X	
610 113 173	X	X	X	X	X	X	X	X	X	X

RETURN TO INDEX

CONTACT PERFORMANCE SPECIFICATIONS

SPECIFICATIONS

INSERTION LOSS - PLASTIC OPTICAL FIBER (POF)	-4.0 db Max / Mated Pair
INSERTION LOSS - GLASS FIBER	-1.5 db Max / Mated Pair
POF DIAMETER	980/1000 μm
GLASS FIBER DIAMETER	Multimode 62.5/125 μm, 50/125 μm

MECHANICAL CHARACTERISTICS

CYCLE LIFE	5,000 Cycles
MATING FORCE - POF	2.07 lbs [0.68 kg]
MATING FORCE - GLASS FIBER	2.8 lbs [1.27 kg]

MATERIAL

CONTACT BODY - POF	Nickel Silver
CONTACT BODY - GLASS FIBER	Ceramic and Nickel Silver

RETURN TO INDEX