

## HELIAX<sup>®</sup> Connector Installation Tips and Techniques

*Supplements the Installation Instructions provided with your HELIAX connectors.*

### General Tips

- Straighten cable end:  
For 1/4" to 1/2" sizes, 6 inches (150 mm), minimum  
For 7/8" to 2-1/4" sizes, 12 inches (300 mm), minimum.
  - Use EASIAX<sup>®</sup> or EASIAX Plus<sup>®</sup> cutting tool, where applicable.
  - Use an accurate scale for all measurements.
  - Do not score the outer conductor if removing jacketing with a knife.
  - If applicable, apply silicone grease with a brush, not with your fingers. Keep off threads and contact surfaces.
  - Use a cutoff guide to trim the inner conductor to the proper length, where applicable.
  - Deburr the inner and outer conductors using a knife or file.
  - Use a chamfer tool to chamfer the inner conductor, where applicable.
  - Use a foam separating tool where applicable.
  - Use appropriate size wrenches to prevent distortion of outer surfaces of connector.
  - Be sure that connectors are tightened to correct specifications. Use torque wrenches if available. Be careful not to over tighten.\*
  - For N male solder connectors, use the pin alignment tool to check the inner connector for straightness. Adjust it, as necessary.\*\*
  - For N and DIN solder connectors, verify pin depth using a depth gauge. Adjust the inner connector, as necessary.\*\*
  - Make all cable bends before connecting interfaces. Align mating connectors carefully to avoid cross threading.
- \* Positive Stop connectors do not require use of a torque wrench.  
\*\* Not required when using captivated connectors

### Tips for OnePiece<sup>™</sup> Connectors

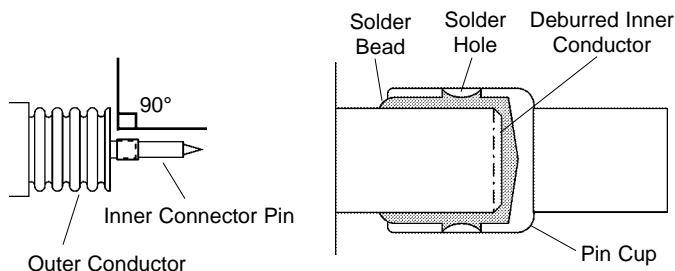
- Be sure the connector is loose—threaded no more than 1/4 turn.
- The foam dielectric must be separated from the outer conductor and pushed toward the inner conductor. Do not use a razor or sharp knife to remove the foam.
- If you have trouble pushing the connector onto the cable, remove a little of the jacketing. Andrew OnePiece Connectors seal on the outer conductor, not the jacketing.
- When you initially tighten the connector:
  - Push the connector toward the cable with one hand
  - Keep pressure on the connector and use the other hand to turn the clamping nut
  - Hand tighten and do not turn the connector body (the portion with the interface)
  - After hand tightening, pull the connector toward you to determine if the internal clamping mechanism has engaged the outer conductor. If the connector is attached correctly, it will not come off.
- To tighten the connector, hold the connector body in place and do not turn it—turn only the clamping nut (the smaller part of the connector, where the opening for the cable is located). After the connector is tightened with wrenches, it should not spin on the cable.

## Tips for Solder Connectors

**Inspect the solder joint. Refit or resolder if you find any of these problems:**

- Pins not aligned with the inner conductor. Pins must be parallel with the inner conductor.
- Burned or melted foam dielectric caused by excessive heat settings or excessive soldering. This will affect cable performance.
- Solder has a dull finish and traces of flux. The solder should be shiny and with no flux to provide a good electrical path. Solder should fill the solder holes and form a bead around the end of the pin cup.

**Note:** Use Rosin core flux solder coil: 63% tin, 37% lead, flux weight 2.4%. Use 0.062" solder for larger diameter inner connectors and 0.031" solder for smaller diameter inner connectors



## Connector Attachment Checklist

Look for Problem/Condition	Solution
<input type="checkbox"/> Check back of clamping nut to make sure that the gasket is not protruding.	Remove clamping nut and remove another 1/32" (1 mm) of jacketing.
<input type="checkbox"/> Check the foam for copper particles.	Clean with a stainless steel wire or nylon brush.
<input type="checkbox"/> Check pin for excess solder or flux on pin cup.	Remove any excess solder with a knife or electrical lead cutters. Remove flux with a leather buffing strap. Do not use sandpaper.
<input type="checkbox"/> Check pin for straightness.	Re-heat pin and align 90° to outer conductor.
<input type="checkbox"/> Check for burnt or melted foam dielectric.	Take a sharp knife and remove 1/16" (1.6 mm) of foam or re-terminate connector.
<input type="checkbox"/> Check pin straightness and pin depth.	Use Andrew specified tools for these steps.
<input type="checkbox"/> Check the interface for dirt or any foreign particles	Clean with a cotton swab.

## Connector Pin Depth Chart

Connector Type	Pin Depth, in	Pin Depth, mm	Connector Type	Pin Depth, in	Pin Depth, mm
SMA Female	0.000/-0.010	0.00/-0.25	HN Female	0.341/0.371	8.66/9.42
SMA Male	0.000/-0.010	0.00/-0.25	HN Male	0.355/0.385	9.02/9.78
BNC Female	0.196/0.206	4.89/5.23	7-16 DIN Female	0.070/0.082	1.78/2.08
BNC Male	0.208/0.218	5.28/5.54	7-16 DIN Male	0.058/0.070	1.47/1.78
TNC Female	0.190/0.206	4.83/5.23	LC Female	0.030 max.	0.76 max.
TNC Male	0.210/0.224	5.33/5.69	LC Male	0.531 max.	13.49 max.
CATV F Male*			7/8 EIA	0.469/0.500	11.91/12.70
SC Female	0.273/0.303	6.93/7.70	1-5/8 EIA	0.594/0.625	15.09/15.88
SC Male	0.307/0.337	7.80/8.56	3-1/8 EIA	0.906/0.937	23.01/23.80
N Female	0.187/0.207	4.75/5.26	Mini UHF*		
N Male	0.208/0.230	5.28/5.84	F Male	0.142/0.152	3.61/3.86
UHF Female	0.063/0.103	1.60/2.62	F Female	0.158/0.183	4.01/4.65
UHF Male	0.325/0.400	8.26/10.16			

\* Has preset interface.