KOAXXA* Series 50-Ohm Straight Connectors

CABLE		CONNECTOR		
TYPE AND SIZE	WIRE SIZE (AWG)	PLUG	JACK	BULKHEAD JACK
RG-174, 188, 316	26	SMA-PS-1F	SMA-JS-1F	SMA-JB-1F
RG-178, 196	26	SMA-PS-1D	SMA-JS-1D	SMA-JB-1D
RD-316, K02252D	26	SMA-PS-1B	SMA-JS-1B	SMA-JB-1B
RG-58, 141, 142, 400	20	SMA-PS-1G	SMA-JS-1G	SMA-JB-1G

Figure 1

1. INTRODUCTION

This instruction sheet covers the assembly of KOAXXA Series 50-ohm straight connectors. The connectors are designed to be assembled onto the flexible cable (solid or stranded wires) type and size given in Figure 1 using the following tooling:

TOOL DESCRIPTION	PART NUMBER
Solder Fixture Assembly	2161890-1
or Mini Single Action Hand Crimp Tool	2161864-1
Hex Crimp Tool	2161732-1

NOTE

Dimensions in this instruction sheet are in metric units [with U.S. customary units in brackets]. Figures are not drawn to scale.

Reasons for reissue of this instruction sheet are provided in Section 5, REVISION SUMMARY.

2. DESCRIPTION

Each connector consists of a housing, center contact (pin or socket), and ferrule. An insert sleeve is also included with connectors designed for RG-178 and 196 cable. See Figure 1.

3. ASSEMBLY PROCEDURE

Refer to Figure 1, and select the appropriate connector for the cable. Strip the cable to the dimensions provided in Figure 2. Assemble the center contact and ferrule as follows:

3.1. Center Contact

The center contact can either be soldered or crimped to the cable.

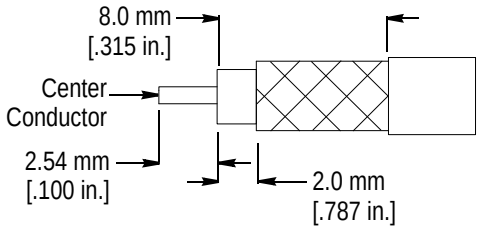
NOTE

For wire size 26 AWG or smaller, soldering the center contacts may be easier than crimping to produce consistently robust terminations.

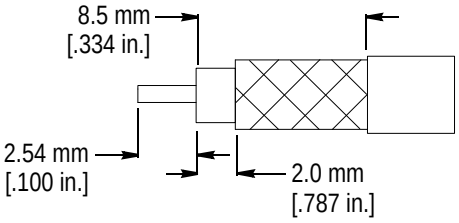
Recommended Cable Strip Length
±0.15 mm [.006 in.]

Note: Note to Scale

RG-174, 188, and 316, RD-316, and K02252D Cable



RG-178 and 196 Cable



RG-58, 141, 142, and 400 Cable

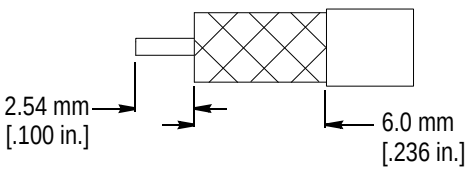


Figure 2

TOOLING ASSISTANCE CENTER 1-800-722-1111
PRODUCT INFORMATION 1-800-522-6752

Proceed as follows:

A. Soldering

1. If desired, for stranded cable, pre-tin the center conductor.

2. For RG-178 and RG-196 cable, slide the sleeve insert (flared end first) over the end of the cable. See Figure 3.

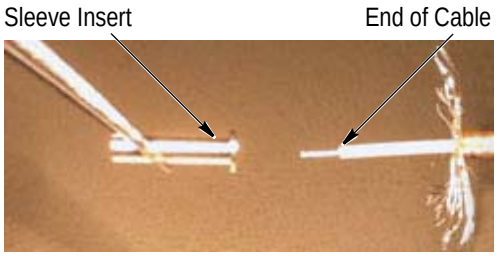
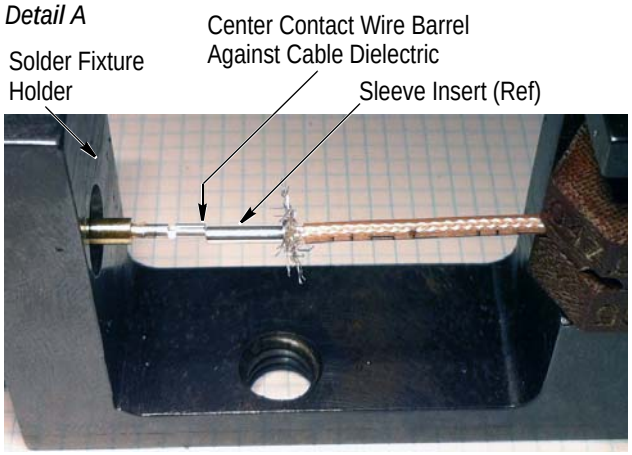


Figure 3

3. Position the center contact in the solder fixture contact holder so that the wire barrel is seated against the cable dielectric and the seam is facing up. See Figure 4, Detail A.

4. Insert solder through the small port in the side of the center contact. Inspect the port for proper wetting and adequate fill. See Figure 4, Detail B.

Detail A



Detail B

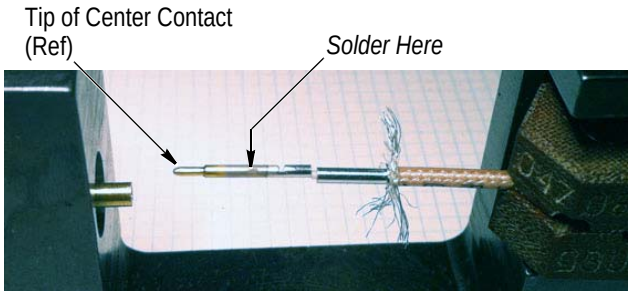


Figure 4

B. Crimping

1. Hold the crimp tool so that the BACK is facing you. Release the tool ratchet by squeezing the tool handles until they are fully compressed, then allowing them to open FULLY.

2. Pull the flip locator down and toward you to the open position. Insert the center contact in the slot that corresponds to the appropriate crimping chamber (crimping chambers are marked with the crimp height dimension on the front of the tool). Make sure that the seam of the wire barrel is facing the top of the flip locator. Refer to Figure 5.

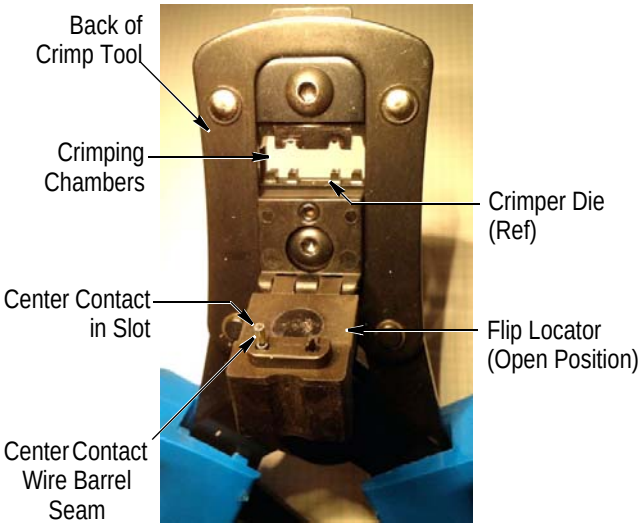


Figure 5

3. Move the flip locator back to its closed position. The center contact should be resting on the crimper die with the seam of the wire barrel facing up.

4. Slowly squeeze the tool handles together until the anvil die starts to enter the crimp transition area (usually by two audible “clicks” from the tool rachet). DO NOT deform the wire barrel of the center contact. See Figure 6.

5. Insert the stripped wire into the wire barrel until the wire insulation butts against the tool stop.

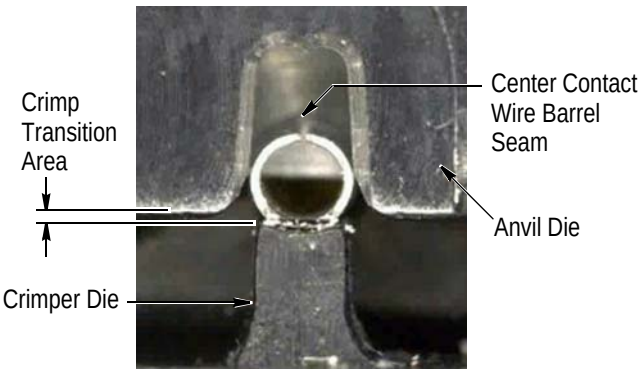


Figure 6

6. Holding the wire in position, crimp the center contact wire barrel by squeezing the tool handles together until the ratchet releases. See Figure 7.

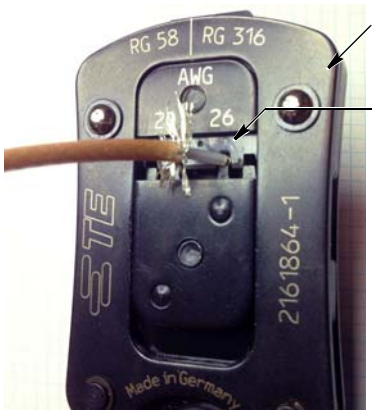


Figure 7

7. Allow the tool handles to open FULLY, and gently remove the center contact from the tool.

3.2. Ferrule

1. Insert the crimped center contact into the connector housing, observing the insertion depth at the interface end. Insert the socket until it almost touches the inside of the dielectric lead-in; and insert the pin until it has an exposed length of approximately 1.09 mm [.075 in.].

2. Distribute the cable braid evenly over the end of the connector housing, then slide the ferrule over the cable braid until it butts against the connector housing as shown in Figure 8, Details A and B.

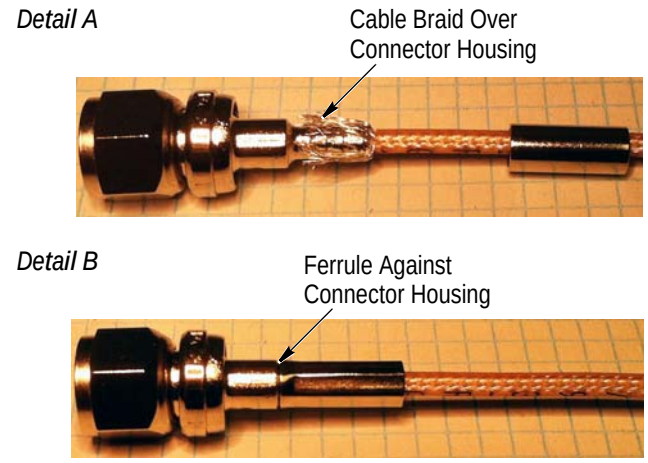
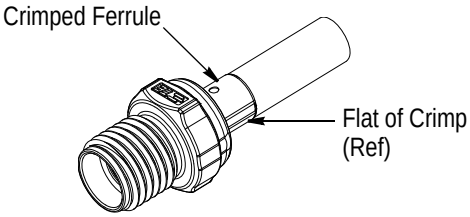


Figure 8

3. Crimp the ferrule using the appropriate tool. Measure the crimp height (across the flats of the crimp) to ensure that it matches the dimension given in Figure 9.



CABLE		FERRULE CRIMP HEIGHT (mm [in.]) (Measured Across Flats of Crimp)
TYPE AND SIZE	WIRE SIZE (AWG)	
RG-174, 178, 188, 196, 316	26	3.25 [.128]
RD-316, K02252D	26	3.84 [.151]
RG-58, 141, 142, 400	20	5.41 [.213]

Figure 9

4. REPLACEMENT

DO NOT use defective or damaged product. DO NOT re-use any component of the connector by removing the cable.

5. REVISION SUMMARY

Revisions to this instruction sheet include:

- Changed illustration to photo in Figures 1, 5, and 8
- Added Figures 3, 4, 6, 7, and 9
- Added connectors, cable sizes, and corresponding wire sizes to Figure 1
- Removed cable size RG-223
- Added solder fixture, added center contact crimp tool, and changed ferrule crimp tool
- Changed and added cable strip lengths
- Modified Section 3 and NOTE in Paragraph 3.1
- Added Sections 2 and 4