FAKRA-Compliant SMB Gen-4 Cable Type Connectors

1. INTRODUCTION

SMB Gen-4 connectors are designed to be crimped onto flexible coaxial cable. Cables sizes are given in Figure 1. Application Specification 114-13157 provides application requirements for the crimped assembly as well as required application tooling.

NOTE

Dimensions in this instruction sheet are in millimeters. Figures are not drawn to scale.

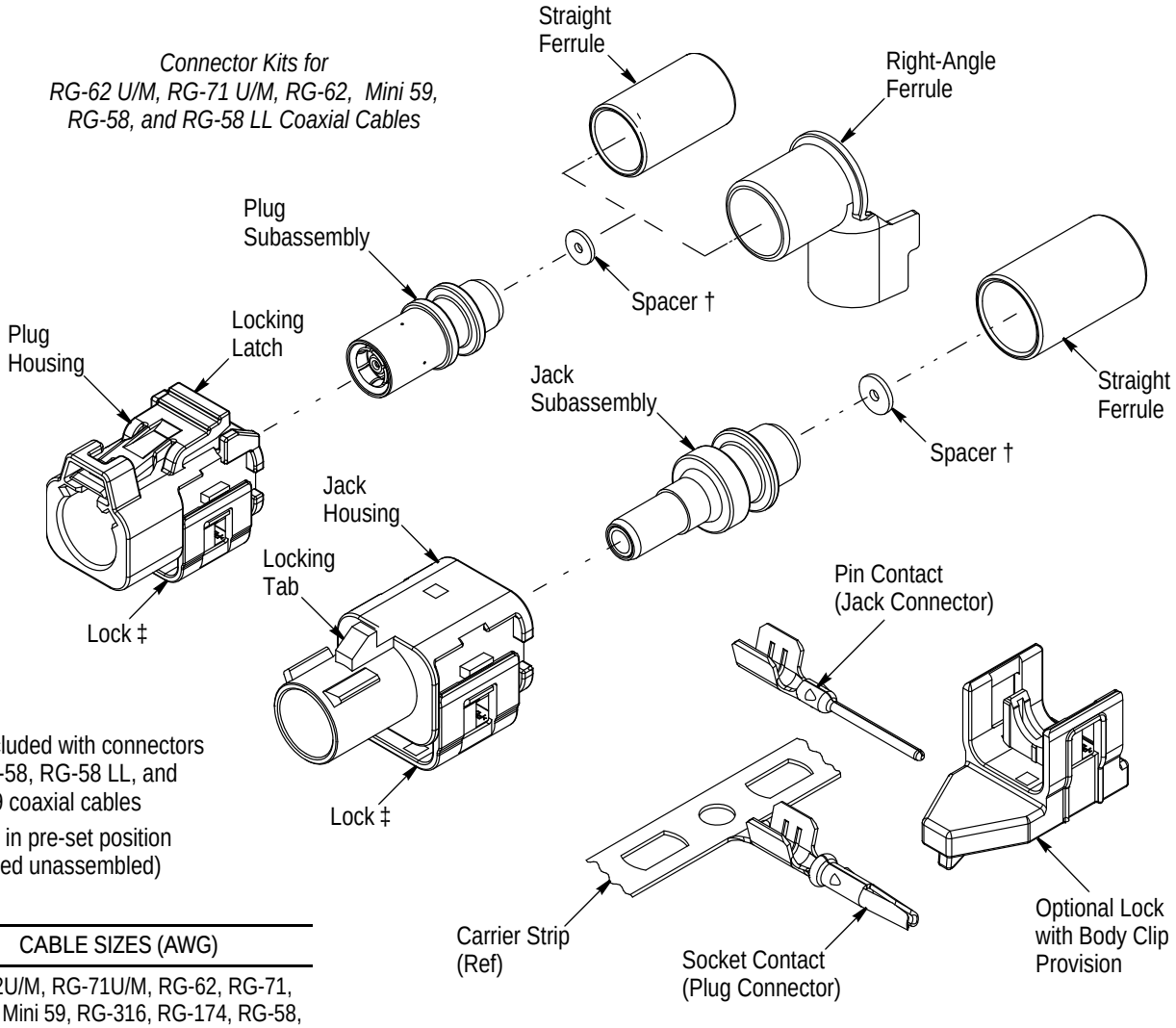
Reasons for reissue of this instruction sheet are provided in Section 5, REVISION SUMMARY.

2. DESCRIPTION (See Figure 1)

The connectors are supplied as plug kits and jack kits that each consist of a housing, subassembly, lock, spacer (if required), and ferrule. The pin and socket contacts are available separately.

When assembled, the lock secures the terminated contact inside the housing. The housings are available with or without keying ribs (jacks) or keying slots (plugs) to prevent inadvertent mating of similar connectors. The housing features a locking latch (plug) or locking tab (jack) that ensure full mating of the connectors.

SMB Gen-4 Connector System (2-Position Connectors Shown)



† Not included with connectors for RG-58, RG-58 LL, and Mini 59 coaxial cables

‡ Shown in pre-set position (provided unassembled)

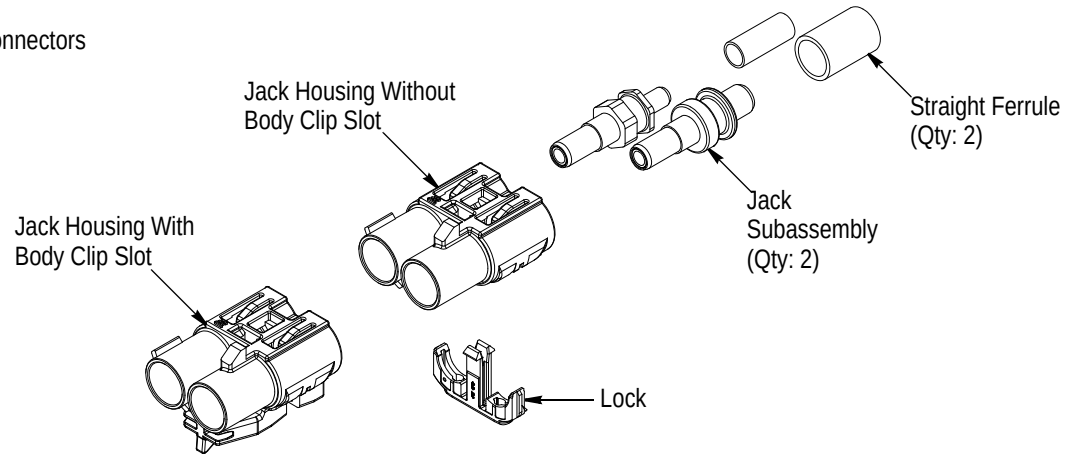
CABLE SIZES (AWG)
RG-62U/M, RG-71U/M, RG-62, RG-71, RG-59, Mini 59, RG-316, RG-174, RG-58, RG-58 LL, 1.5DS-QFB

Figure 1 (Cont'd)

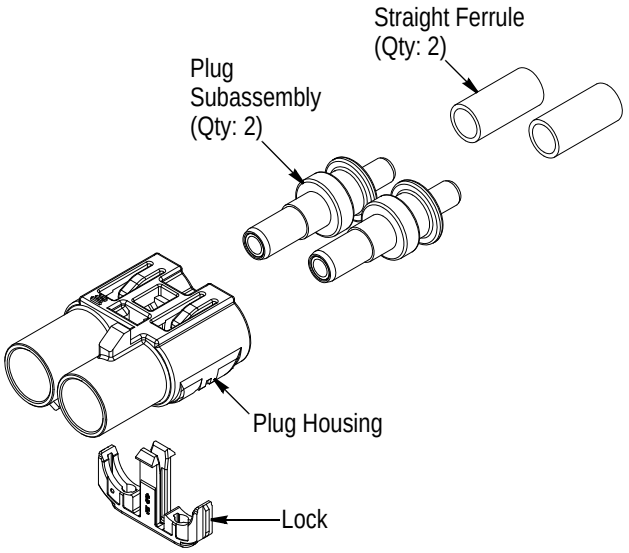
FAKRA is the DIN Standardization Committee of Motor Vehicles 70010.

Connector Kit for RG-174, RG-58, and Mini 59 Coaxial Cables

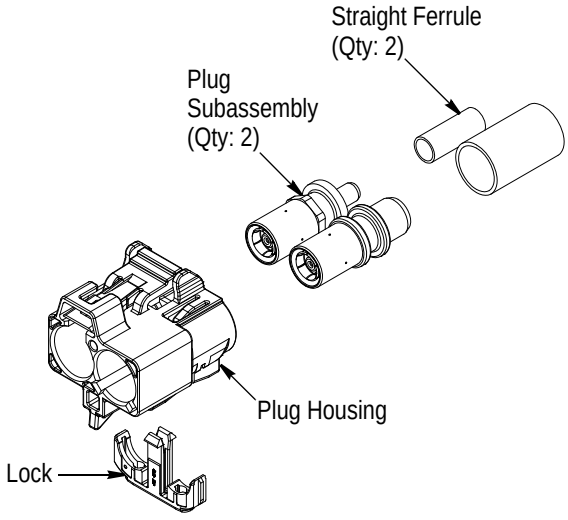
Note: 2-position connectors shown.



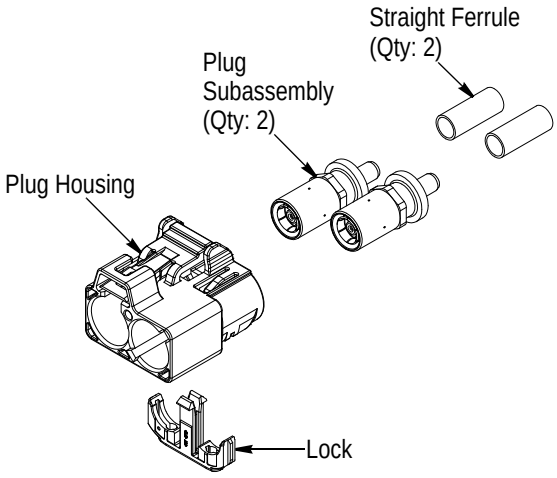
Connector Kit for 1.5DS-QFB Coaxial Cable



Connector Kit for RG-174 and RG-71 U/M Coaxial Cables



Connector Kit for RG-316 and RG-174 Coaxial Cables



Connector Kit for RG-174, RG-58, and Mini 59 Coaxial Cables

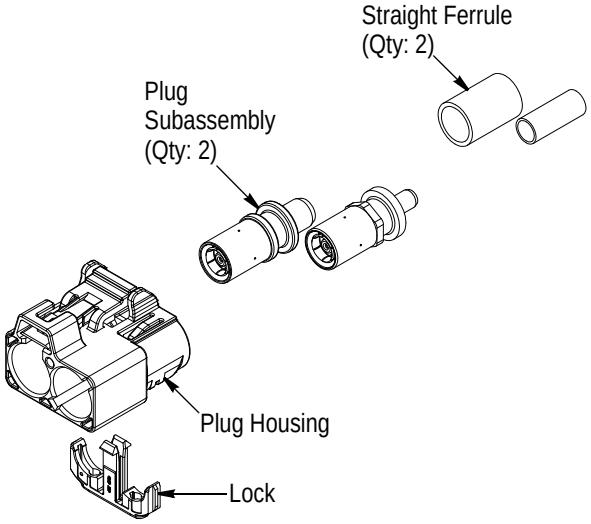


Figure 1 (End)

3. ASSEMBLY PROCEDURE

3.1. Cable Selection and Preparation

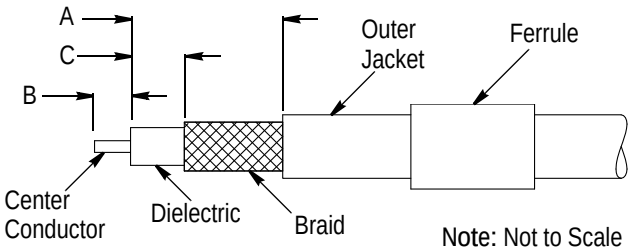
1. Refer to Figure 2 for applicable cable sizes.

2. Slide the ferrule onto the cable. See Figure 2.

3. Strip the cable to the dimensions given in Figure 2. Be careful to NOT nick or cut the center conductor or the braid.

4. Flare the cable braid.

Cable Strip Length



CONNECTOR	CABLE SIZE (AWG)	DIMENSION ±0.25		
		A	B	C
Plug (Socket Contact)	RG-71U/M, RG-71	6.84	3.55	1.20
	RG-62U/M, RG-62			
	RG-59, Mini 59	7.28	3.11	1.64
	RG-316, RG-174			
	RG-58, RG-58 LL, 1.5DS-QFB			
Jack (Pin Contact)	RG-71U/M, RG-71	9.47	3.55	3.58
	RG-62U/M, RG-62			
	RG-59, Mini 59	9.91	3.11	4.02
	RG-316, RG-174			
	RG-58, RG-58 LL, 1.5DS-QFB			

Figure 2

3.2. Crimping Ferrule and Contact

1. Crimp the contact onto the cable center conductor using the tooling specified in 114-13157. Refer to the instructions packaged with the tooling for detailed crimping procedures.

2. Insert the crimped contact into the subassembly until it snaps in place. The contact will be held in place by the dielectric inside of the subassembly.

3. Position the cable braid over the tail end of the subassembly. Refer to Figure 3.

4. Slide the ferrule over the cable braid until the ferrule butts against the shoulder of the subassembly. See Figure 4.

5. Crimp the ferrule using the tooling specified in 114-13157 and the instructions packaged with the tooling.

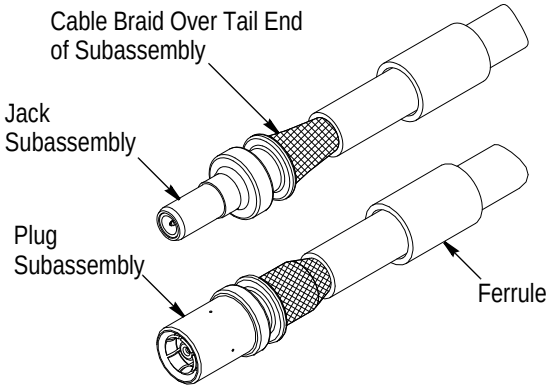


Figure 3

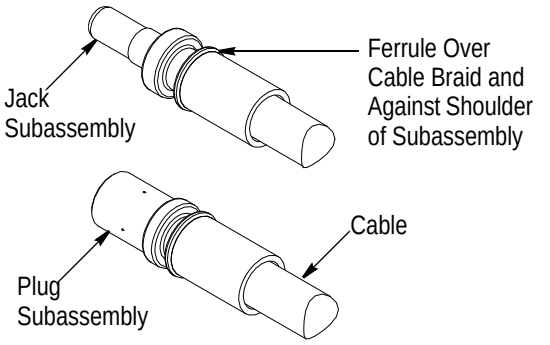


Figure 4

NOTE

Crimping the ferrule onto certain wire sizes have resulted with extrusion of the braid and jacket beneath the ferrule crimp. This extrusion causes the contact to pull away from the dielectric seating surface. The contact must be held in place by applying an axial force to the cable during crimping to ensure that the contact is located according to the dimensions specified in Figure 5.

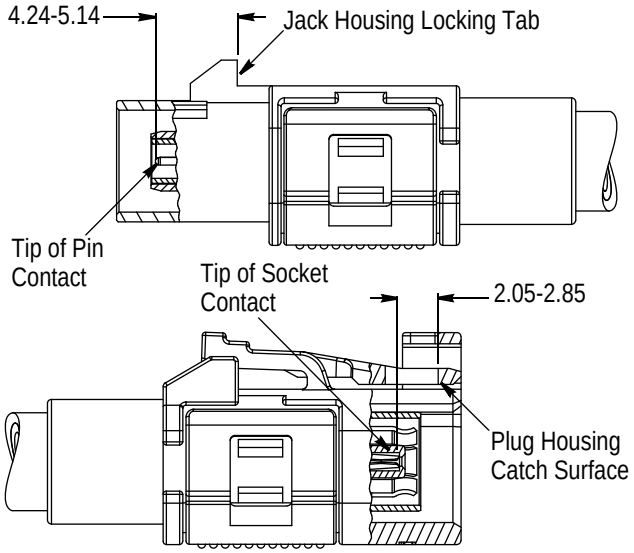


Figure 5

6. Visually inspect the the crimped ferrule according to Figure 6.

7. Slide the subassembly into the housing until the collar bottoms on the stop. Refer to Figure 7.

8. Align the locking windows of the lock with the latches of the housing. See Figure 8. Push the lock onto the housing until it “snaps” into place. Check that all latches are fully engaged. If any latch is not fully engaged, press down on the top of the latch while pressing inward on the sides of the lock. Make sure that all parts of the lock are flush to the housing.

Refer to Figure 9 for properly assembled connectors.

Crimped Ferrule Held Firmly in Place on Subassembly and Cable

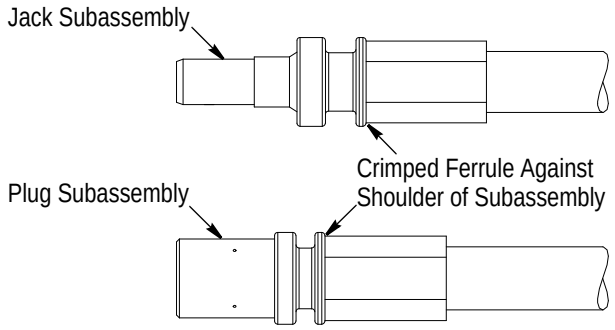


Figure 6

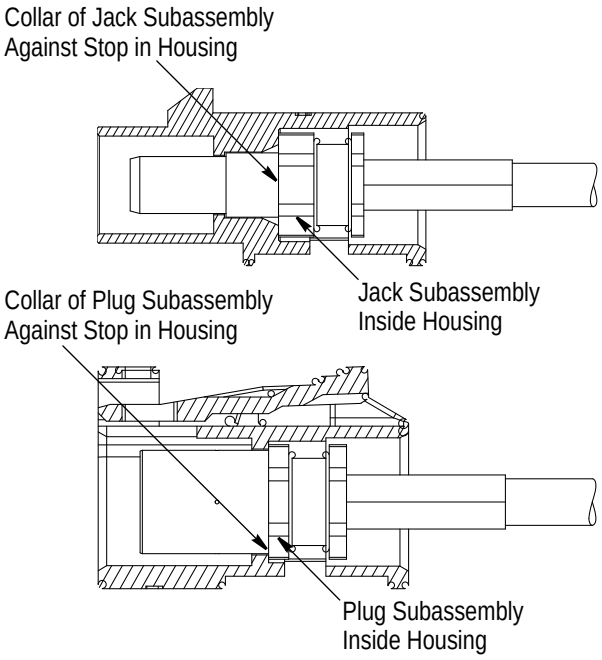


Figure 7

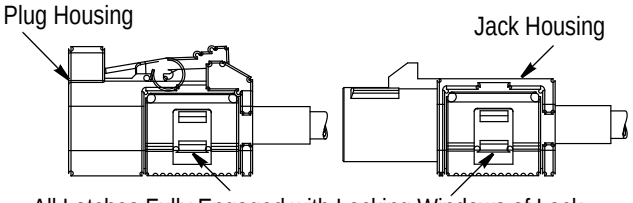


Figure 8

Properly Assembled Connectors

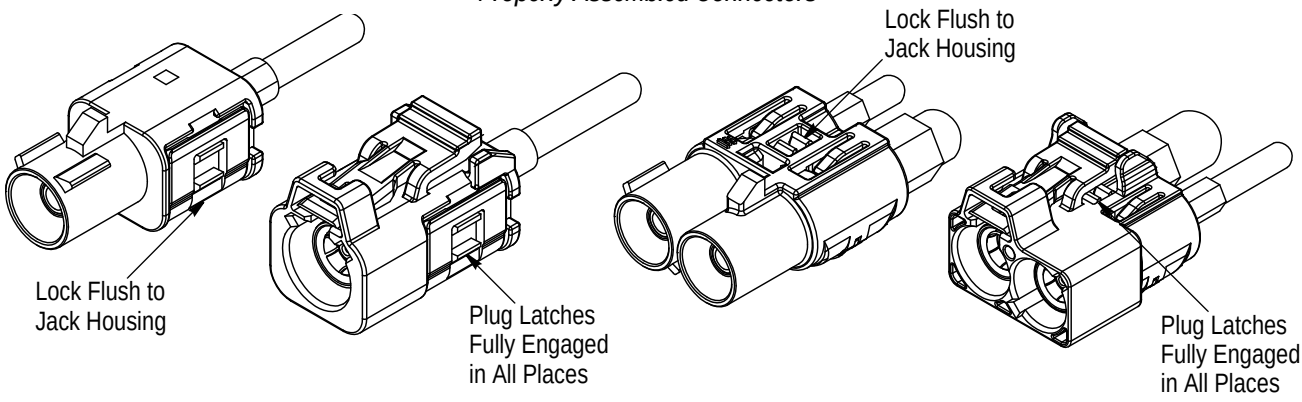


Figure 9

4. REPLACEMENT AND REPAIR

Kit components are not repairable. Replace any damaged components. DO NOT re-use terminated contacts, ferrules, or subassemblies by removing the cable.

5. REVISION SUMMARY

Revisions to this instruction sheet include:

- Changed company name and logo
- Added cable size
- Updated document to corporate requirements