1.2-mm Multiple Contact (MCON)
Sealed Plug (Female) Connectors

Sealed Plug Connector (4-Position Shown)

Figure 1

1. INTRODUCTION

This instruction sheet provides assembly (terminal insertion and connector mating) and disassembly (connector unmating and terminal extraction) procedures for 1.2-mm MCON sealed plug (female) connectors shown in Figure 1. These connectors accept 1.2-mm MCON clean body (CB) terminals.

> **NOTE**
> *These connectors mate with various devices and 1.2-mm MCON sealed cap (male) connectors. For assembly and disassembly procedures for the male connectors, refer to instruction sheet 408-32094.*

> **NOTE**
> *Dimensions in this instruction sheet are in metric units. Figures are not drawn to scale.*

2. DESCRIPTION (See Figure 1)

Each connector consists of a housing with circuit cavities, independent secondary lock (ISL), peripheral seal, and mating latch. Different keying configurations are available. The connectors are available with or without a connector position assurance (CPA) lock. The CPA lock is used to provide a visual indication that the connector is fully mated. If the connector is not fully mated, the CPA lock will not engage.

Each circuit cavity is polarized to prevent the terminal from being inserted upside-down. After all terminals are inserted, the ISL is used to ensure that all terminals are fully seated and to provide additional terminal retention. If a terminal is not fully seated or improperly orientated in the circuit cavity, the ISL will not close properly.

The peripheral seal prevents moisture from entering the connector interface. Moisture resistance for the circuit cavities is provided through the use of wire seals (to be installed onto the wires) and sealing plugs (to be inserted in the circuit cavities). Selection of applicable wire seals and sealing plugs is wire and application dependent.

3. ASSEMBLY PROCEDURE

3.1. Terminal Insertion

1. Make sure that the terminals are properly crimped and wire seals are installed onto the wires. Refer to Application Specification 114-18464 for inspection requirements.

> **CAUTION**
> *The insulation barrel crimp measurement requirements are dependent on the wire insulation type and outside diameter. Make sure that the insulation barrel crimp is sufficient enough to grip the seal so that it does not slide out of the crimp when inserting the terminal into the circuit cavity, but not so tight that it tears the seal.*

2. Determine the keying configuration by referring to the customer drawing of the specific connector, then select the corresponding connector.

3. Make sure that the ISL is open as shown in Figure 2, Detail A. If it is not, open the ISL according to Paragraph 4.2.

4. Insert each terminated terminal as follows:

a. Align the terminal with the selected circuit cavity of the housing so that the terminal locking feature faces in the same direction as the locking latch of the housing. See Figure 2, Detail B.

b. Insert the terminal into the circuit cavity until it bottoms. There should be an audible or tactile "click" when the terminal is fully seated. Gently pull the wire to ensure that the terminal is locked in place.

c. Check that the wire seal is below the top of the circuit cavity. See Figure 2, Detail B. If it is not, press the protruding part of the wire seal into the circuit cavity, ensuring that it stays in place. If necessary, use a blunt probe with a rounded edge. Take care not to tear the seal. If the seal tears, the terminal and seal must be replaced.

5. Install a sealing plug into any empty circuit cavity. See Figure 2, Detail B.

6. After all terminals have been inserted, slide the ISL until it is closed. The ISL should be easy to close. See Figure 2, Detail C.
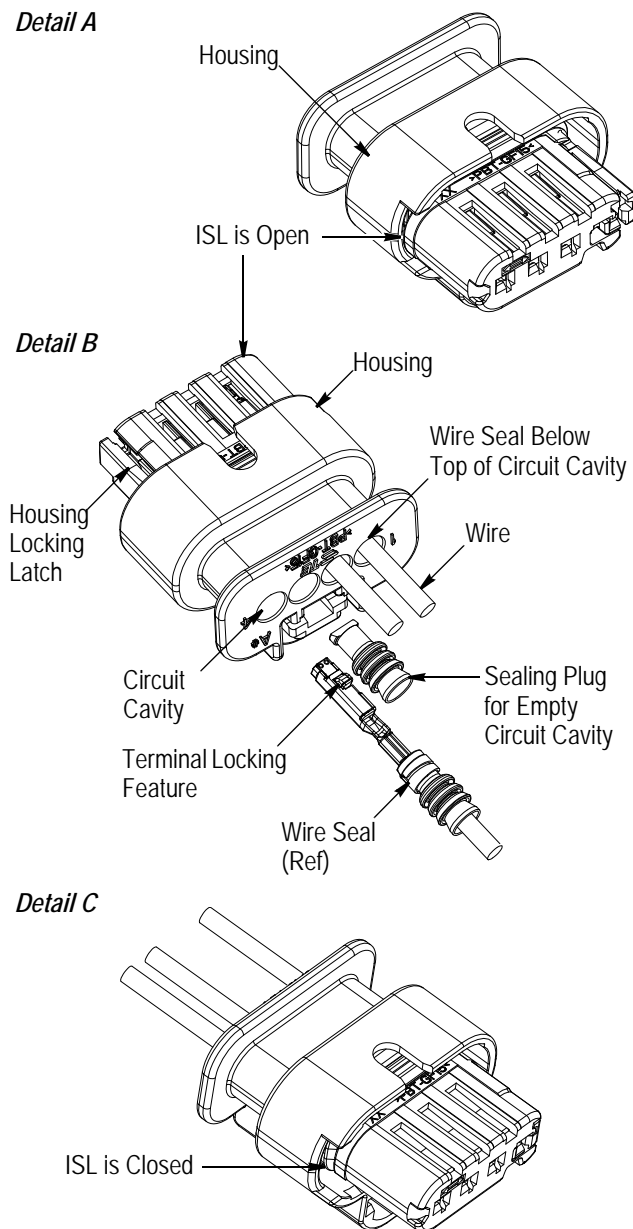
Detail A

Housing

ISL is Open

Detail B

Housing

Wire Seal Below Top of Circuit Cavity

Wire

Housing Locking Latch

Circuit Cavity

Terminal Locking Feature

Sealing Plug for Empty Circuit Cavity

Wire Seal (Ref)

Detail C

ISL is Closed

Figure 2

CAUTION

To prevent damage to the ISL, DO NOT force the ISL to close. The ISL is designed to close only if all terminals are properly oriented and fully seated in the circuit cavities.

3.2. Mating

CAUTION

For proper mating and circuitry, the design of the mating connector must strictly adhere to the interface drawing listed on the customer drawing of the specific connector.

1. Align the connector with the mating connector so that the connector mating latch faces the mating latch of the mating connector, and the key slot faces the key of the mating connector. Then, push the connectors together. Refer to Figure 3.

2. If using the CPA lock, push the CPA lock forward until there is an audible and tactile "click"; locking the connector and mating connector together. See Figure 3. The CPA lock should be easy to engage. It will be difficult to engage if the connector and mating connector are not fully mated.

CAUTION

To prevent damage to the CPA lock or connector, DO NOT force the CPA lock to engage. The CPA lock is designed to engage only if the connector and mating connector are fully mated.
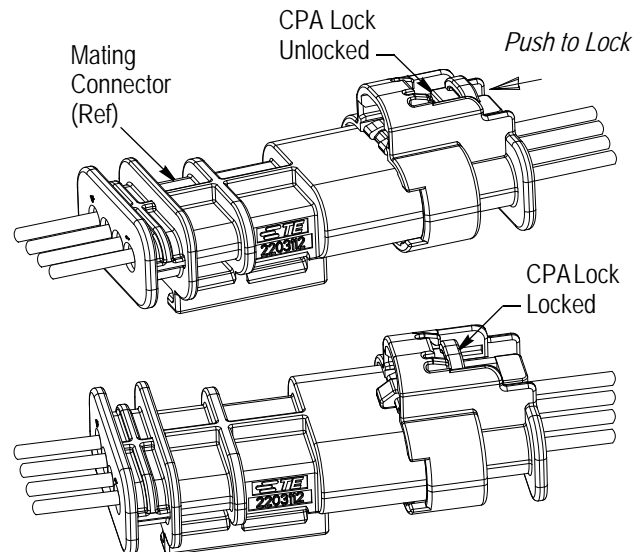
CPA Lock Unlocked

Push to Lock

Mating Connector (Ref)

CPA Lock Locked

Figure 3

4. DISASSEMBLY PROCEDURE

4.1. Unmating

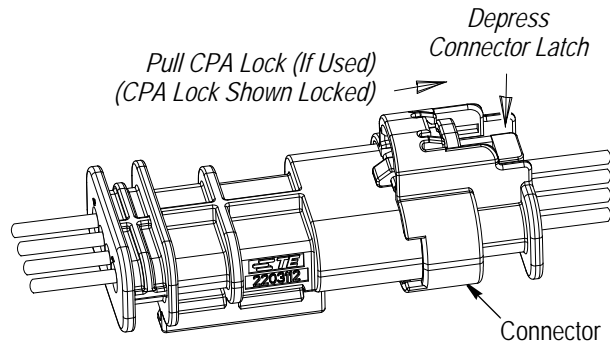1. If using the CPA lock, pull back on the CPA lock to unlock the connector and mating connector. Refer to Figure 4.

Pull CPA Lock (If Used)
(CPA Lock Shown Locked)

Depress Connector Latch

Connector

Figure 4

2. Depress the connector latch of the connector, and gently pull the connector and mating connector apart.

4.2. Terminal Removal

1. Open the ISL as follows:

a. Insert the tip of a small screwdriver into the open side of the ISL, and lift the ISL until it free from the inside of the housing. See Figure 5.

ISL Lifted

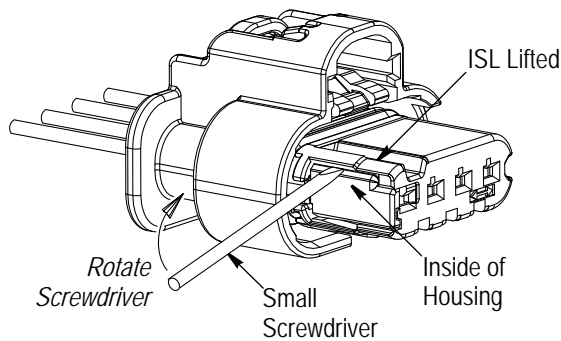*Rotate Screwdriver*

Small Screwdriver

Inside of Housing

Figure 5

b. Slide the ISL 2.0 mm so that the front end protrudes slightly from the housing. This is the "open position" and will unlock the terminals from the connector. Refer to Figure 6, Detail A.

2. Insert the tip of Delphi Removal Tool 12094429 (or equivalent) into the release window for the terminal to be removed, and gently pry the housing locking latch away from the terminal locking feature (this will release the terminal). See Figure 6, Detail A.
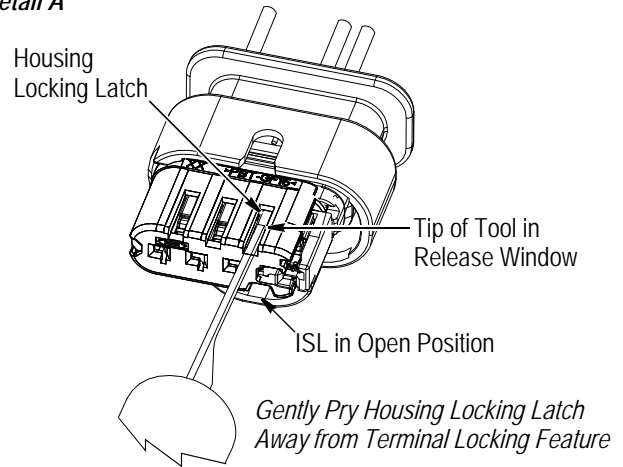
⚠️ *CAUTION*
The avoid damage to the ISL, do not flex the housing locking latch past the ISL.

3. Using the wire, pull the terminal from the connector. See Figure 6, Detail B.

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Detail A

Housing Locking Latch

Tip of Tool in Release Window

ISL in Open Position

Gently Pry Housing Locking Latch Away from Terminal Locking Feature
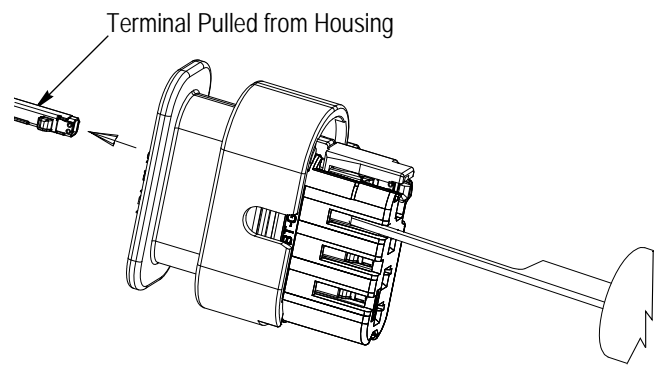
Detail B

Terminal Pulled from Housing

Figure 6

5. REPLACEMENT AND REPAIR

The terminals and connectors are not repairable. DO NOT use any defective or damaged terminals or connectors. DO NOT re-use a terminated terminal by removing the wire.

6. REVISION SUMMARY

Initial release of instruction sheet