

CONNECTOR POSITIONS	CONNECTOR PART NUMBER (Restricted Not Listed)			
	TESTED TO SAE/USCAR-2 CONNECTOR TEMPERATURE CLASS			
	STANDARD		LOW-PROFILE	
	Class 3	Class 4	Class 3	Class 4
2	1924067-[ ]	2098557-[ ]	NA	2098641-[ ]
3	1488991-[ ]	2098541-[ ]	1488992-[ ]	2098542-[ ]
4	NA	1456426-[ ]	NA	NA
6	1924292-[ ]	2098559-[ ]	NA	NA

Figure 1

## 1. INTRODUCTION

This instruction sheet provides assembly (contact insertion and mating) and disassembly (contact extraction and unmating) procedures for 1.2-mm sealed MCON plug connectors. The connectors are available in standard and low-profile. See Figure 1. These connectors accept “clean body” receptacle contacts with wire seals. Contact, wire seal, and sealing plug part numbers, and connector part numbers and descriptions are given in Figure 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 6, REVISION SUMMARY.

## 2. DESCRIPTION (See Figure 1)

Each connector consists of an outer housing, inner housing with contact cavities, terminal position assurance (TPA) secondary lock, and peripheral seal. The peripheral seal prevents moisture from entering the connector interface. Different keying configurations are available. The connectors are available with or without a connector position assurance (CPA) lock.

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

The CPA lock is used to provide a visual indication that the connector is fully mated. If the connector is not properly mated, the CPA lock will not engage.

Moisture resistance for the contact cavities is provided through the use of wire seals (to be installed onto the wires) and sealing plugs (to be inserted in the contact cavities). See Figure 1 for part numbers. Refer to the Customer Drawing of the specific connector for compatible contact and wire seal part numbers.

### 3. ASSEMBLY PROCEDURE

#### 3.1. Contact Insertion

1. Make sure that the contacts 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 contact into the contact 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 TPA is open as shown in Figure 2, Detail A. If it is not, open the TPA according to Paragraph 4.2.

4. Insert each terminated contact as follows:

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

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

- c. Check that the wire seal is below the top of the contact cavity. See Figure 2, Detail B. If it is not, press the protruding part of the wire seal into the contact 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 contact and seal must be replaced.

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

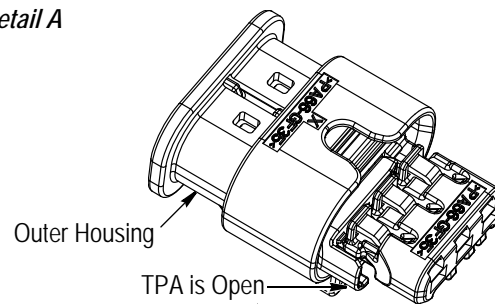
6. After all contacts have been inserted, slide the TPA until it is closed. The TPA should be easy to close. See Figure 2, Detail C.



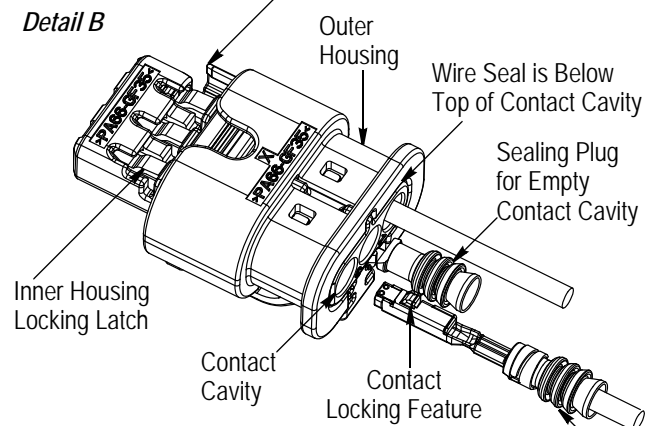
#### CAUTION

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

#### Detail A



#### Detail B



#### Detail C

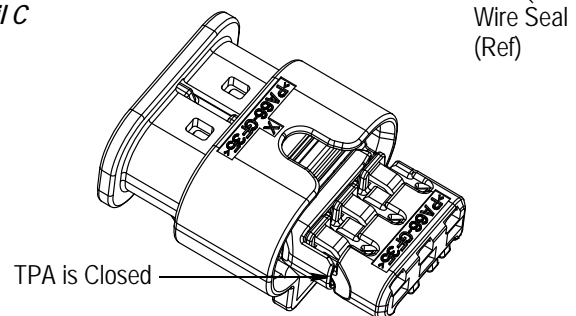


Figure 2

#### 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 latch faces the latch of the mating connector, and the key slot faces the key of the mating connector.

2. Push the connector and mating connector together. Refer to Figure 3.

3. 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: 1) the CPA lock is pushed at an angle, or 2) the connector and mating connector are not fully mated.

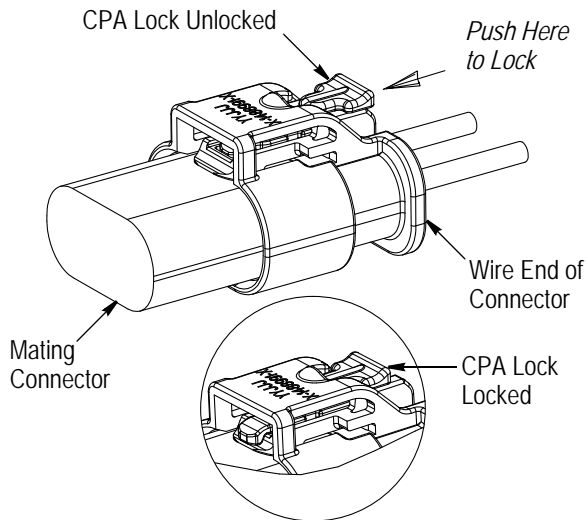


Figure 3



**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.

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

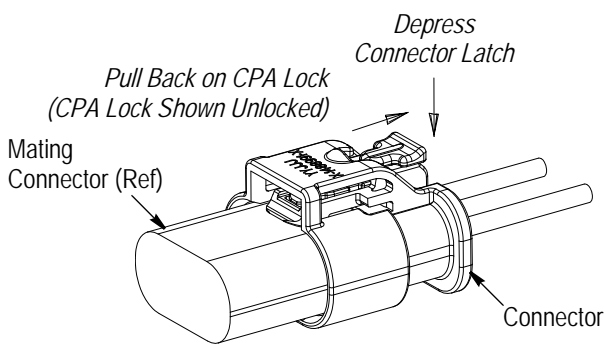


Figure 4

**4.2. Contact Removal**

1. Ensure that the TPA is open as follows: insert the tip of a small pin or similar device into the front of the TPA, and lift the TPA until it butts against the inside of the outer housing (this is the “pre-lock position” and will unlock the contacts in the connector). See Figure 5.

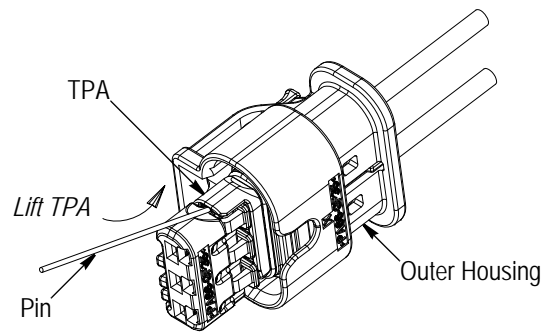
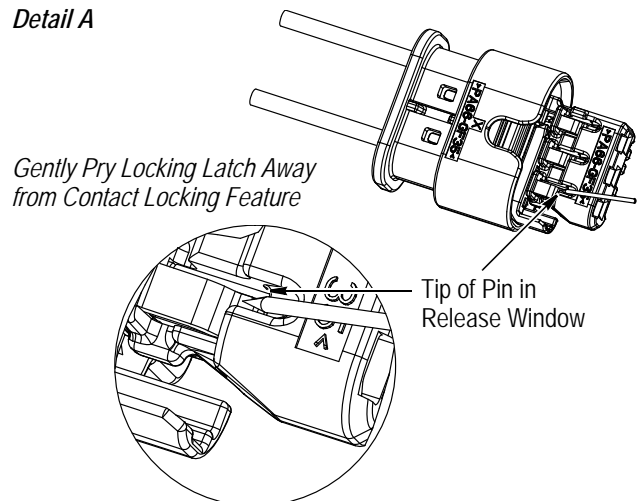


Figure 5

2. Insert the tip of a small pin or similar device into the release window for the contact to be removed, and gently pry the locking latch away from the contact locking feature (this will release the contact). See Figure 6, Detail A.

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

**Detail A**



**Detail B**

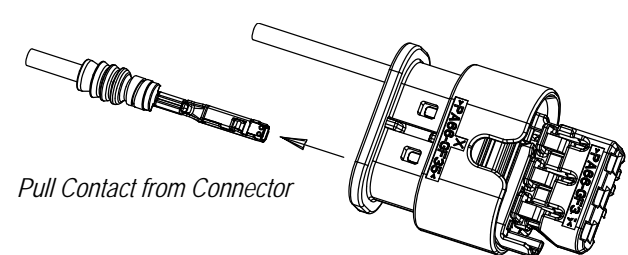


Figure 6

**5. REPLACEMENT AND REPAIR**

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

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## 6. REVISION SUMMARY

Revisions to this instruction sheet include:

- Added note about restricted part numbers to Figure 1
- Removed applications reference from Section 1
- Changed interface device to mating connector
- Added CAUTION to Step 1 of and added Step 5 to Paragraph 3.1
- Modified Steps 1 and 3 of Paragraph 3.2

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