

**NOTE**



All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of  $\pm 0.13$  [ $\pm 0.005$ ] and angles have a tolerance of  $\pm 2^\circ$ . Figures and illustrations are for identification only and are not drawn to scale.

**1. INTRODUCTION**

This specification covers the requirements for application of the (Global Electronic Technology) GET Sealed Market Plug Connector Assembly. The product is available in 1x6, 2x4, 2x8 Market Plug Connectors, and 2x9 USCAR versions. These plug connectors will mate to a customer supplied interface. Drawings with the recommended dimensions for the interface are available from TE Connectivity.

**NOTE**



Refer to Application Specification 114-13060 for all termination and application information for the socket contacts which are used in the GET Sealed Market Plug Connectors.

When corresponding with TE Personnel, use the terminology provided in this specification to facilitate your inquiries for information. Basic terms and features of this product are provided in Figure 1.

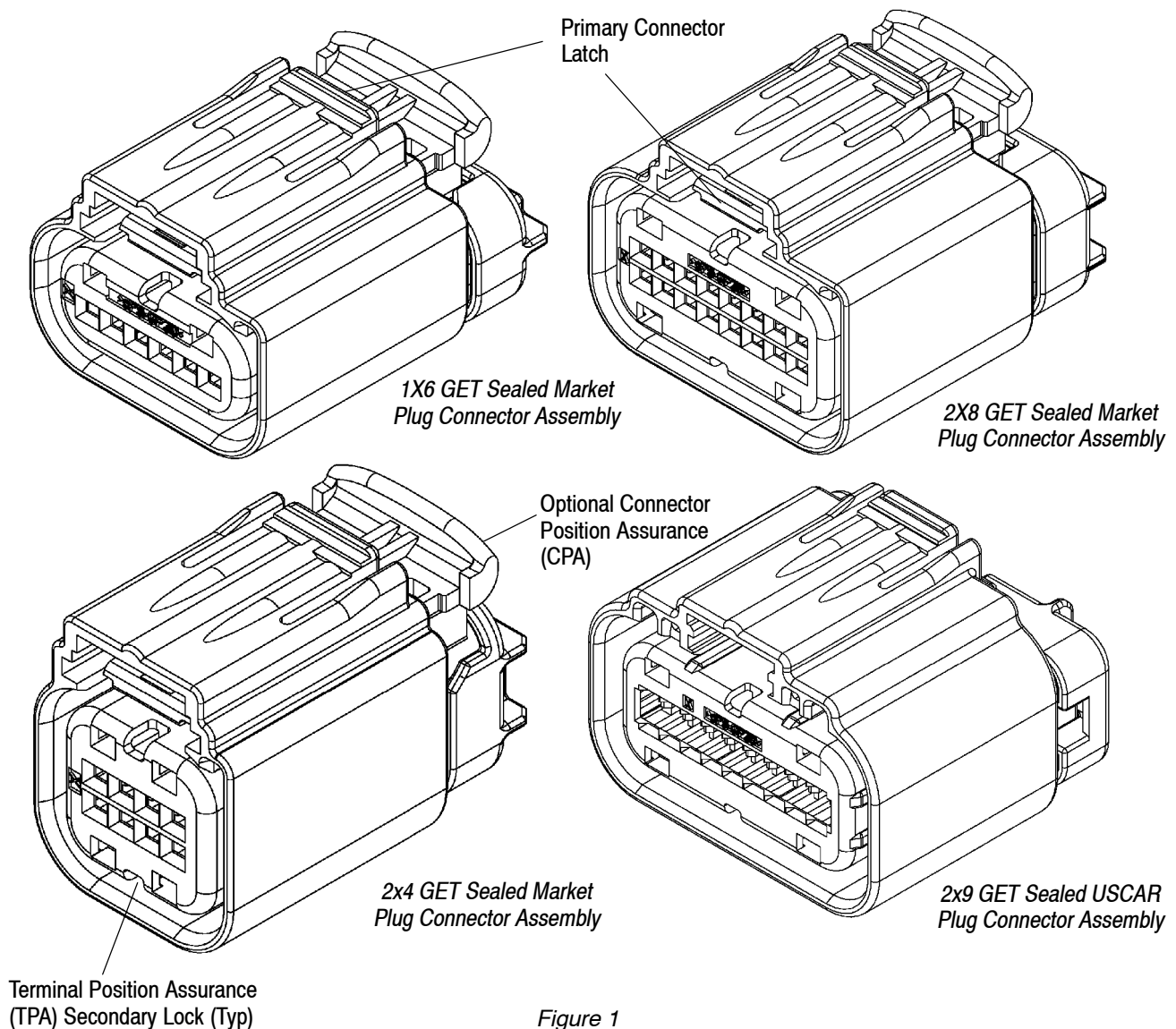


Figure 1

## 2. REFERENCE MATERIAL

### 2.1. Revision Summary

- Updated document to corporate requirements
- New logo

### 2.2. Customer Assistance

Reference Product Base Part Number 1488533 and Product Code E624 are representative numbers of the GET Sealed Market Plug Connector Assembly. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local TE Representative or, after purchase, by calling the Product Information Center at the number at the bottom of page 1.

### 2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, call the Product Information Center at the number at the bottom of page 1.

### 2.4. Instructional Material

The following is a list of Application Specifications (114 Series), that provide application information for related products; and Instructional Documents (408 Series), that provide assembly procedures for product, operation, maintenance and repair of tooling.

<u>Document Number</u>	<u>Document Title</u>
114-13060	GET 0.64 mm Pin and Socket Contacts for GET Market Connectors
408-8598	GET Market Connector Female (Sealed)

## 3. REQUIREMENTS

### 3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

### 3.2. Storage

#### A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the connector material.

#### B. Shelf Life

The connectors should remain in the shipping containers until ready for use to prevent deformation to the components. The connectors should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

### 3.3. Materials

The connector cover and housing is made from Nylon (Glass Fiber 35%), the connector TPA is made from PBT + PC (Glass Fiber 30%), the seal and grommet are made from Silicone. The socket contact is made from 7025 copper alloy and is available in gold or tin plating.

### 3.4. Wire Selection and Preparation

The socket contacts and plug connectors will accept a wire size range of 24-18 AWG having insulation diameters of 1.1-2.06 mm [.043-.081 in.]. Only wires with insulation diameters within the recommended range for this product line should be used.

Terminate the wires according to the procedures and information provided in Application Specification 114-13060.

#### NOTE



*The applied crimp dimension (within the functional range of the product) is dependent on the termination tooling being used. Refer to the documentation (applicator logs and instruction sheets) supplied with the termination tooling for the applied crimp height. Refer to Application Specification 114-13060.*



*DO NOT nick, scrape, or cut the wire conductor during the stripping operation.*



*Damaged product should not be used. If a damaged contact is evident, it should be cut from the wire and replaced with a new one. Contacts must not be reterminated.*

### 3.5. Interface Drawings

The interface drawings will be used to create the mating part for the plug connector assembly listed on this document. See Figure 2. The interface drawings are available upon request from any TE Representative, or by calling the Product Information Center number at the bottom of page 1.

INTERFACE DRAWING NUMBER	DESCRIPTION
1438199	1X6 Sealed Market Receptacle Connector
1488342	2X4 Sealed Market Receptacle Connector
1488345	2X8 Sealed Market Receptacle Connector
1488536	2X9 Sealed USCAR Receptacle Connector

Figure 2

### 3.6. Sealed Market Plug Connectors (See Figure 1)

The GET Sealed Market Plug Connectors are designed to operate in areas of the vehicle that are subject to environmental conditions such as water, moisture, and humidity. The connectors are also designed to seal out various fluids found in and around road vehicles. The connector also provides moisture resistance through the use of a mat seal and a perimeter seal in the interface area.

These plug connectors are available on 2.54 mm [.100 in.] centerline spacing between circuits. An optional CPA is available on each connector. A TPA is designed on each plug connector to lock the contacts in the housing. A special Extraction Tool (Part No. 3-1579007-6) is required to remove the TPA and contacts. See Section 5, TOOLING. Breakdown of these connectors are provided in the table in Figure 3.

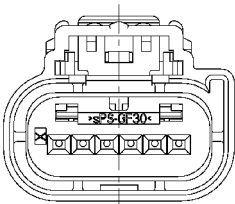
SEALED MARKET PLUG CONNECTOR	ROWS	POSITIONS
1X6	1	6
2X4	2	8
2X8	2	16
2X9	2	18

Figure 3

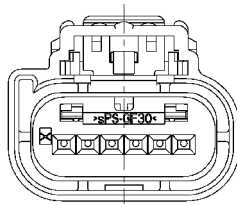
### 3.7. Keying Configurations

The GET Sealed Market Plug Connectors are available in four different keying configurations for each connector size. Refer to Figure 4 for the keying patterns.

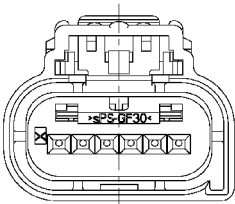
**1X6 GET Sealed Market  
Plug Connector Assembly**



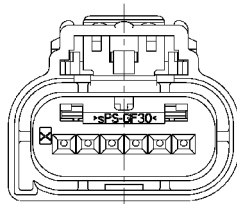
*Keying Option "A"*



*Keying Option "B"*

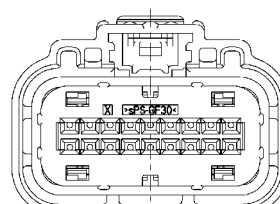


*Keying Option "C"*

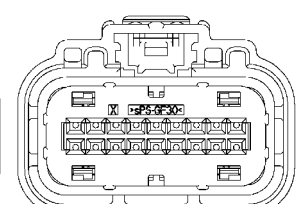


*Keying Option "D"*

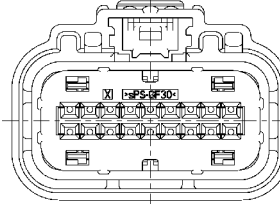
**2X8 GET Sealed Market  
Plug Connector Assembly**



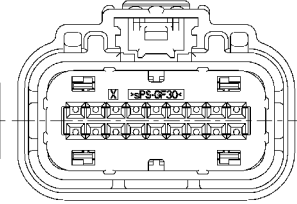
*Keying Option "A"*



*Keying Option "B"*

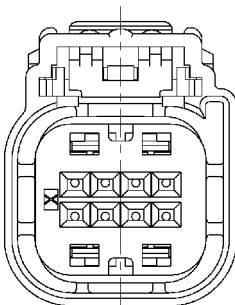


*Keying Option "C"*

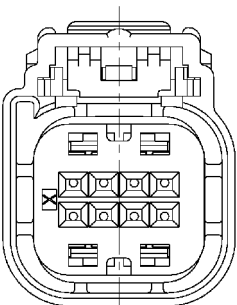


*Keying Option "D"*

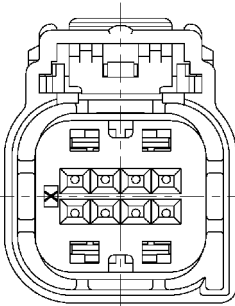
**2x4 GET Sealed Market  
Plug Connector Assembly**



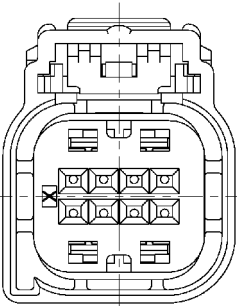
*Keying Option "A"*



*Keying Option "B"*

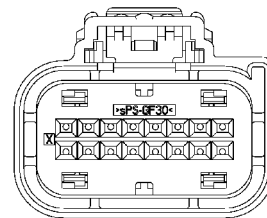


*Keying Option "C"*

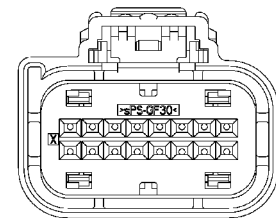


*Keying Option "D"*

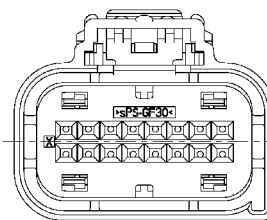
**2x9 GET Sealed USCAR  
Plug Connector Assembly**



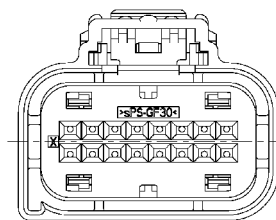
*Keying Option "A"*  
*(Housing Color: Black)*



*Keying Option "B"*  
*(Housing Color: Grey)*



*Keying Option "C"*  
*(Housing Color: Brown)*





*Keying Option "D"*  
*(Housing Color : Green)*

Figure 4

### 3.8. Assembly Procedures

After terminating the socket contacts with the correct wire sizes according to the requirements provided in Application Specification 114-13060, the assembly procedures are as follows.

**NOTE**  The rear of the connector must be completely sealed. Unused circuits are blocked by molding shut the unused terminal opening on the rear cover. A pin molded on the blocked circuit passes through the mat seal to prevent any contamination from entering the seal. See Figure 5. Current blocked circuit configurations can be found on the TE Customer Drawing. New configurations can be obtained by contacting the PRODUCT INFORMATION number at the bottom of page 1.

**NOTE**  Contact retention features in the connector will not engage if the contacts are inserted into those connectors while the TPA is in the "locked" position.

#### A. Contact and Connector Assembly

Crimped socket contacts shall be manually loaded into the plug connectors. Insert the contacts into the connector with the information as follows:

1. Verify that the TPA is in the pre-staged position (un-locked). Prior to installing the contacts, the TPA and the front of the connector should be almost flush with each other. See Figure 5.

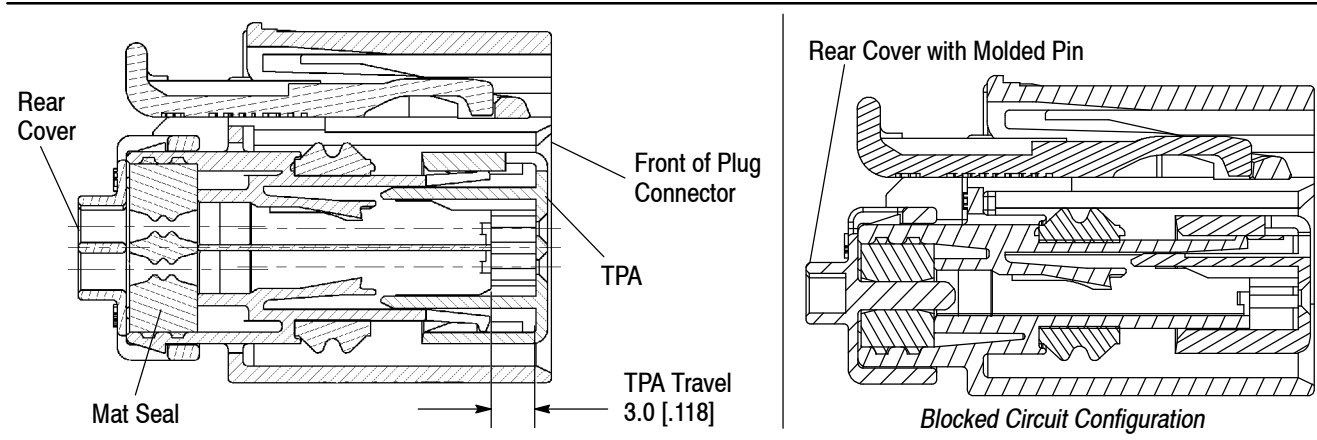


Figure 5

2. Locate the desired circuit into which the individual socket contact will be loaded. The contact must be inserted from the wire end (rear) of the plug connector until it bottoms (there should be an audible and tactile "click"). Each socket contact must be locked in place. Gently pull on the wire to ensure proper contact locking and retention with a force of 4.5 to 8.9 N [1 to 2 lbf]. See Figure 6.

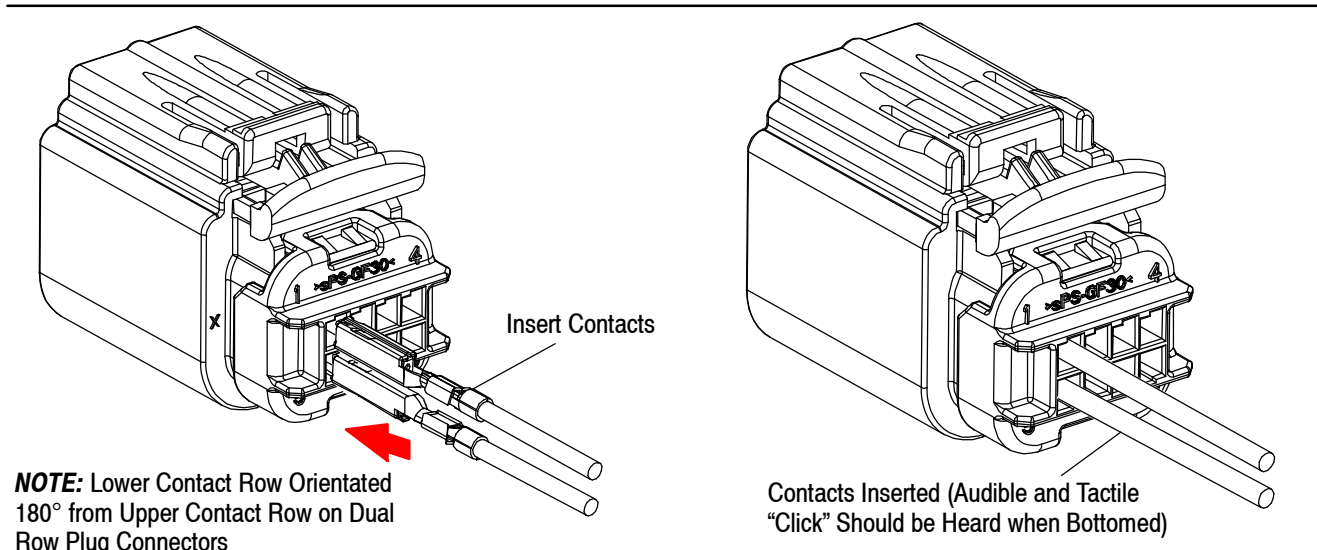


Figure 6

3. When all of the required socket contacts have been inserted, complete the assembly by pushing the TPA into the fully locked position. The TPA may be fully locked by holding the rear of the plug connector assembly and pushing the TPA toward the rear of the connector. See Figure 7.

**NOTE**



*If the TPA is not fully inserted and locked, repeat the previous step. When an audible and tactile “click” is heard and felt, the TPA secondary lock is in the final position.*

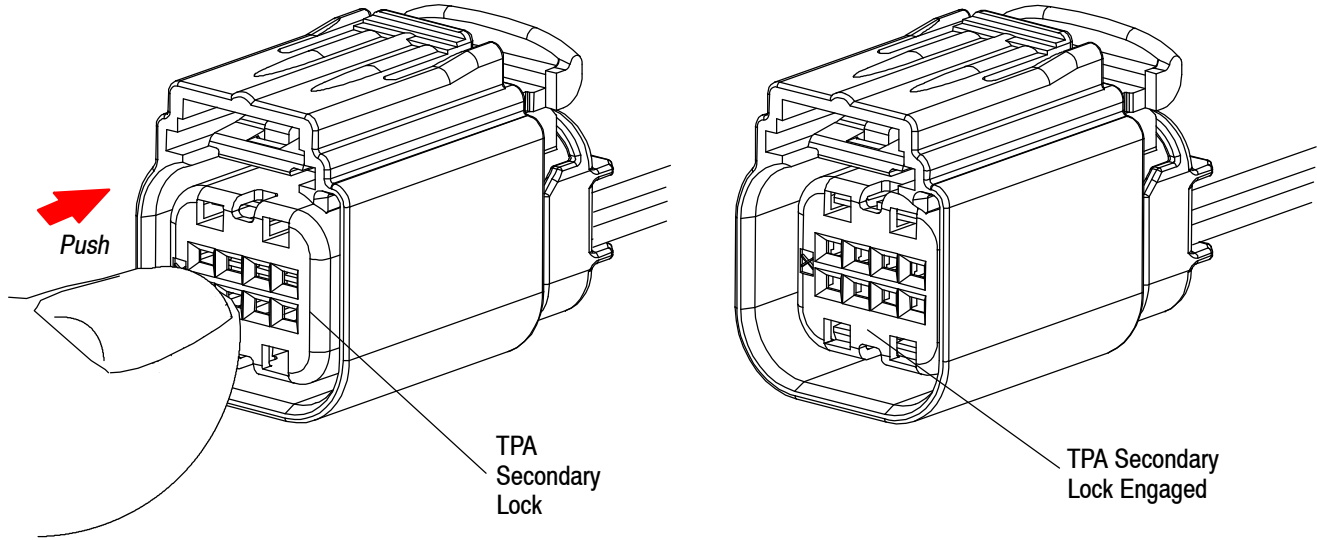


Figure 7

**B. Contact and Plug Connector Disassembly**

In order to remove the contacts for any reason, the following steps must be followed.

1. To disengage the TPA, insert Extraction Tool 3-1579007-6 in the center of the plug connector housing cutout on the TPA. Rotate the extraction tool toward the front of the connector to disengage the TPA. See Figure 8.

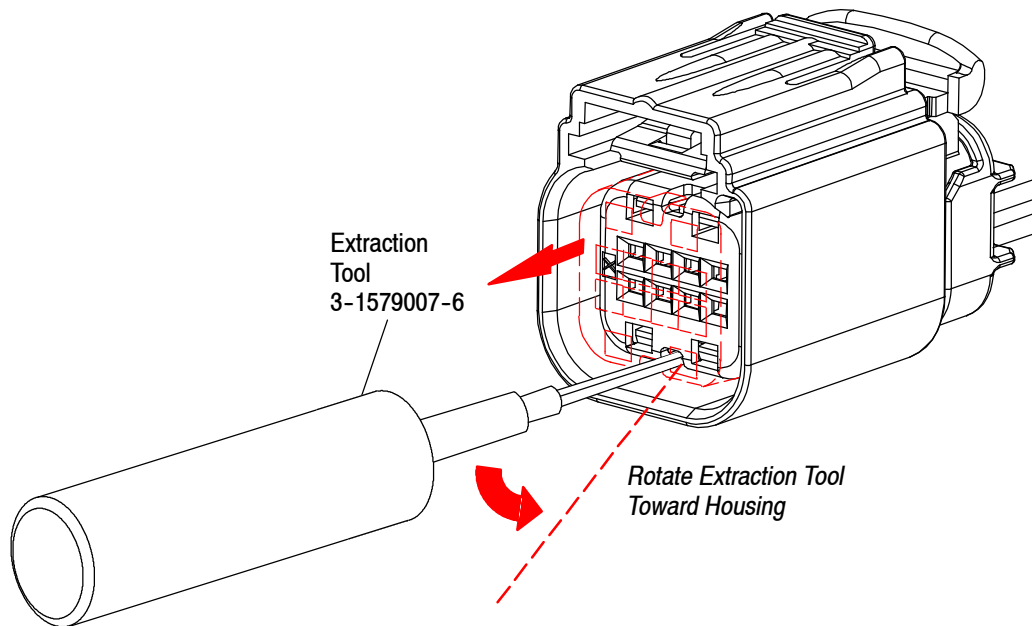


Figure 8



2. Place the extraction tool under the beam that holds the contact in place as shown in Figure 9.

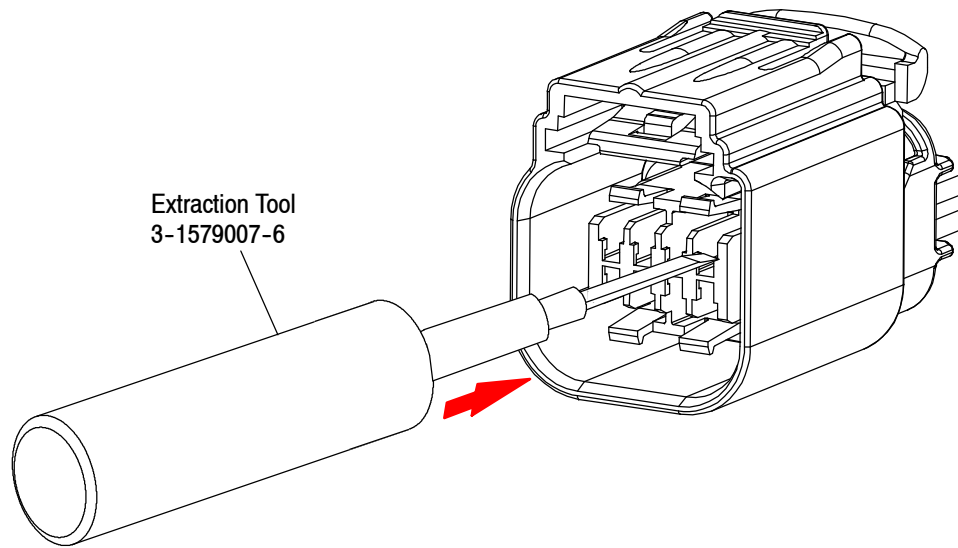


Figure 9

3. Refer to Figure 10A, 10B, 10C, and 10D for contact removal process.

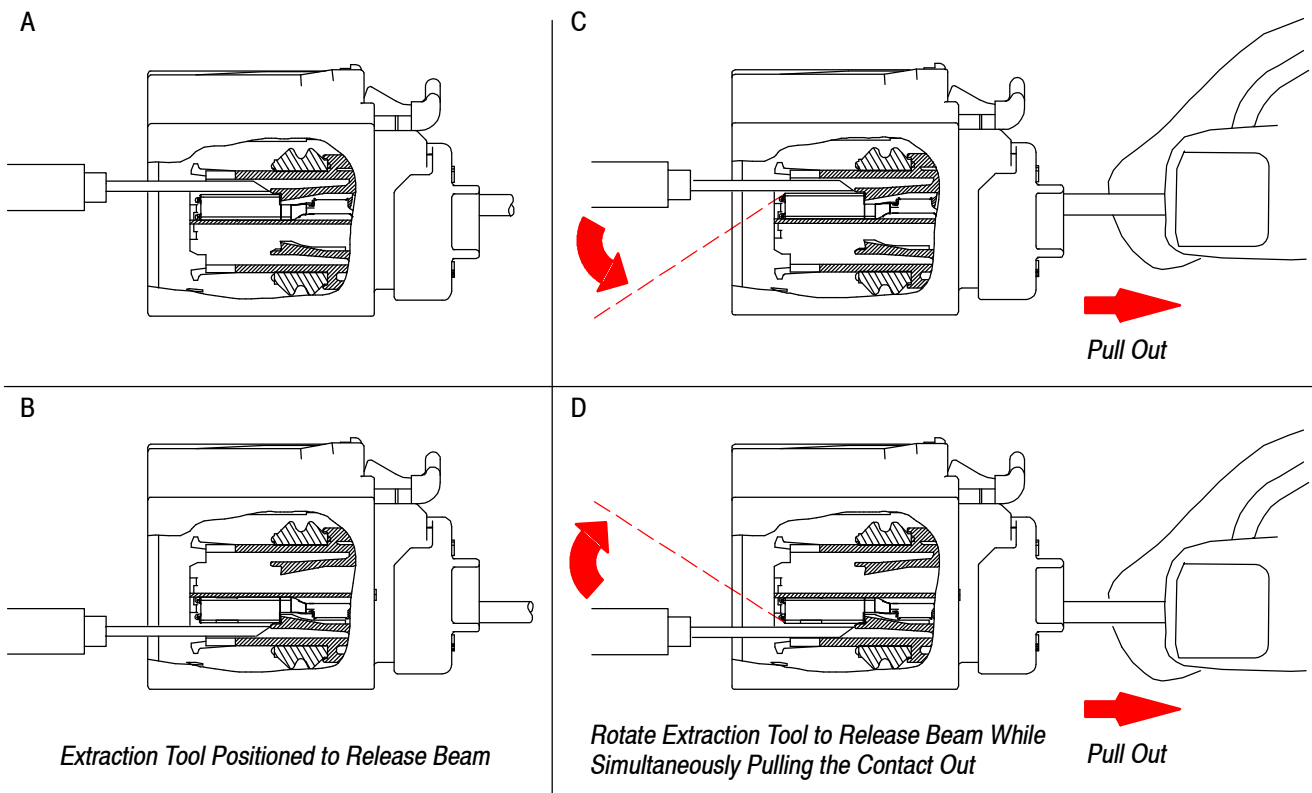


Figure 10



**CAUTION** Do not re-use damaged or worn contacts. Damaged contacts should not be used. If a damaged contact is evident, it should be cut from the wire and replaced with a new one. Do not reterminate contacts.

### C. Receptacle and Plug Connector Assembly

A variety of customer supplied receptacle connectors may be available for mating with the GET Sealed Market Plug Connector Assembly. Refer to TE Interface Drawings as provided in Figure 2 for specific dimensions on these receptacle connectors or contact the TE Product Information number at the bottom of Page 1. Mating instructions are provided as follows:

1. The CPA is locked in Position “1” during shipping and handling before engaging the primary connector latch. The CPA can not move forward until the connectors are mated and the primary connector latch is mated with an audible and tactile “click” and engages. Refer to Figure 11.

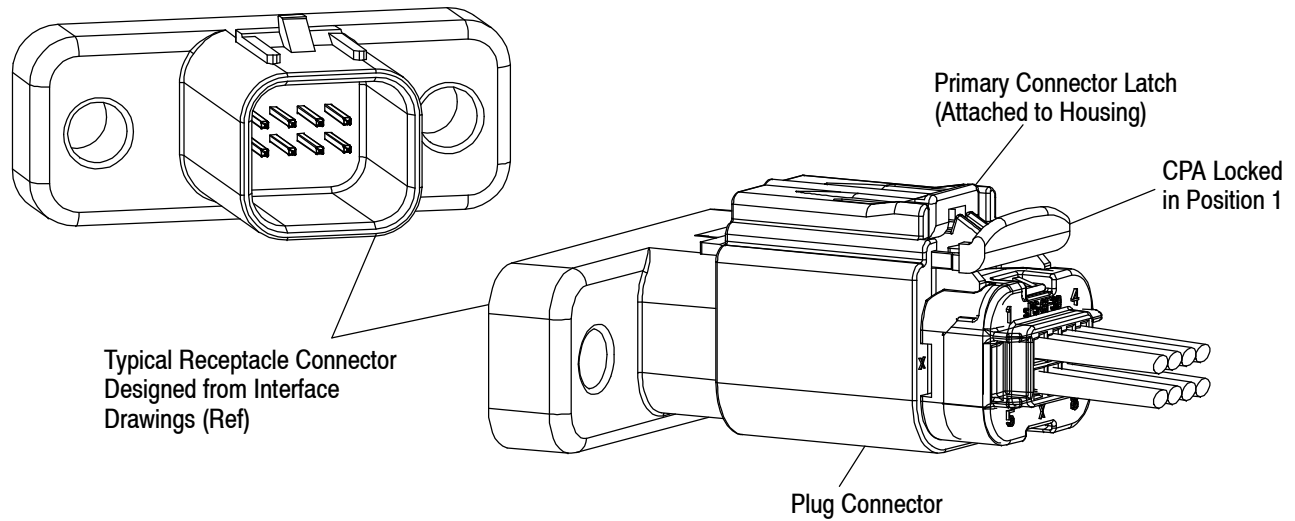


Figure 11

2. To mate the two connectors together, push on the housing base or sides only. Do not push the CPA forward until the primary connector latch “clicks” and engages. See Figure 12A.
3. Finally to lock, push the CPA forward until an audible and tactile “click” is heard and felt. This will engage the secondary lock and ensure proper CPA locking. See Figure 12B.

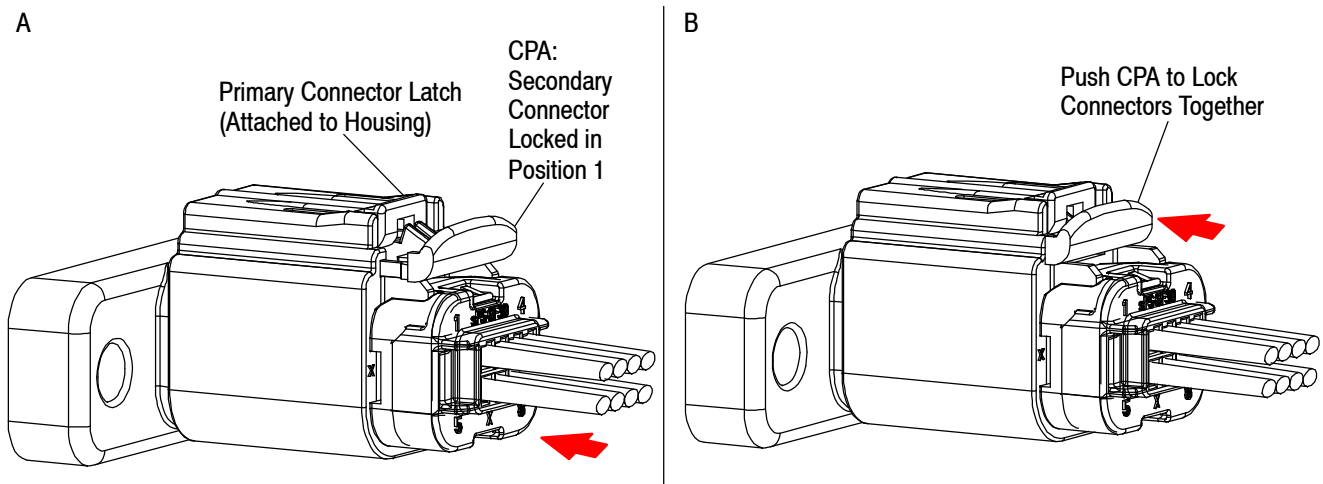


Figure 12

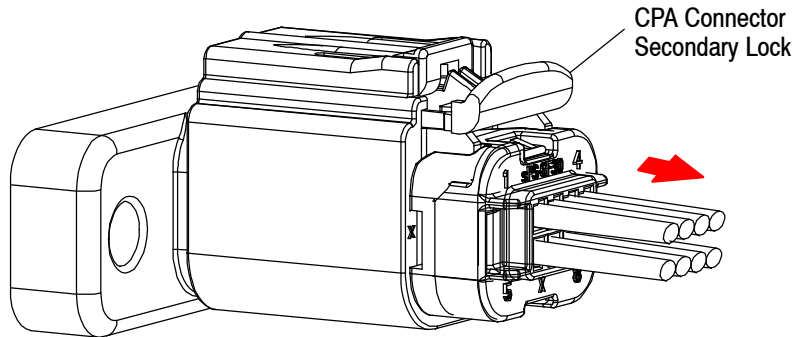
### D. Unmating of Receptacle and Plug Connector Assembly

1. To unmate the receptacle and plug connector assemblies, lightly pull the CPA back to Position 1 (pre-installed position) until and audible and tactile “click” is heard and felt. See Figure 13A.



2. With the CPA in Position 1, depress the primary connector latch, then simultaneously pull the connectors/wires while gripping the housing with the thumb, index finger, and palm if using the wire bundle. See Figure 13B.

A



B

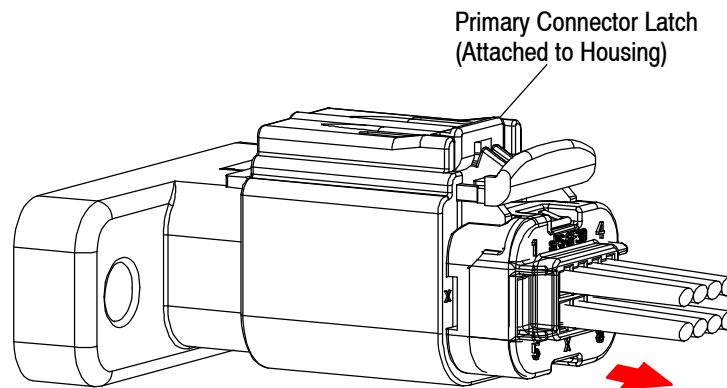


Figure 13

**4. QUALIFICATIONS**

GET Sealed Market Plug Connector Assemblies are not required to be agency approved.

**5. TOOLING**

The only tool needed for this product line is Extraction Tool 3-1579007-6 which is necessary to remove the Terminal Position Assurance (TPA) secondary lock from the set position, and to remove the terminals from the circuit cavities. See Figure 14.

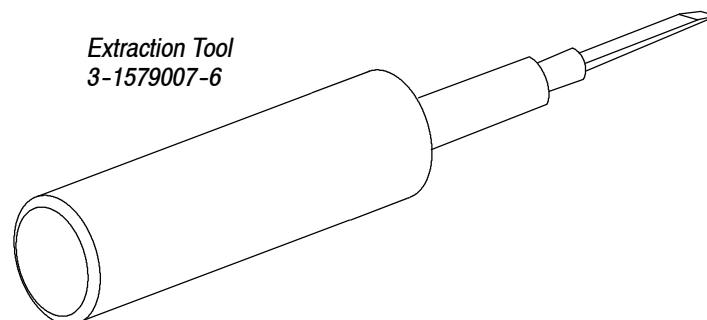
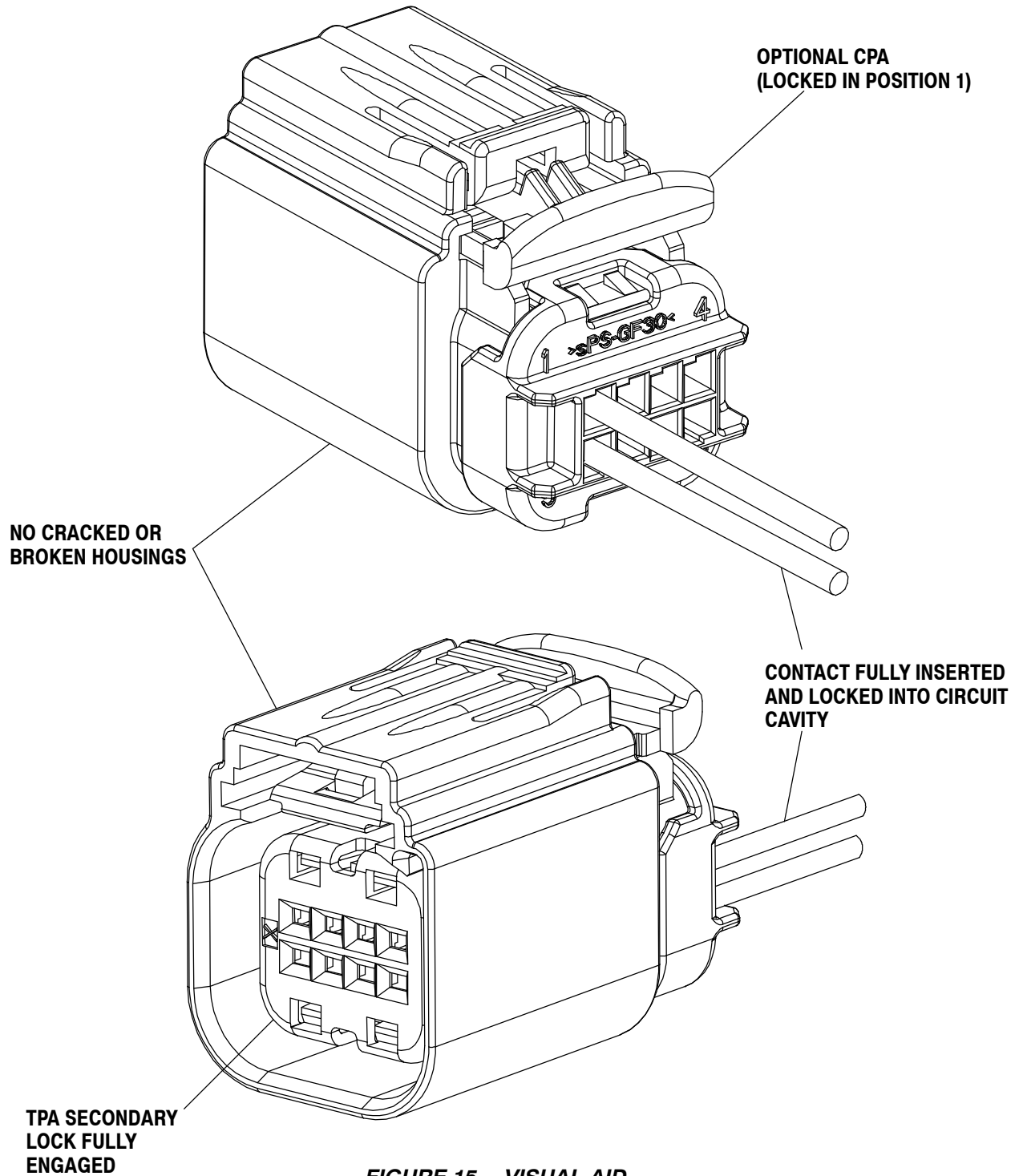


Figure 14

**6. VISUAL AID**

Figure 15 shows a typical application of a GET Sealed Market Plug Connector Assembly. This illustration should be used by production personnel to ensure a correctly applied product. Applications which DO NOT appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.



**FIGURE 15. VISUAL AID**

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