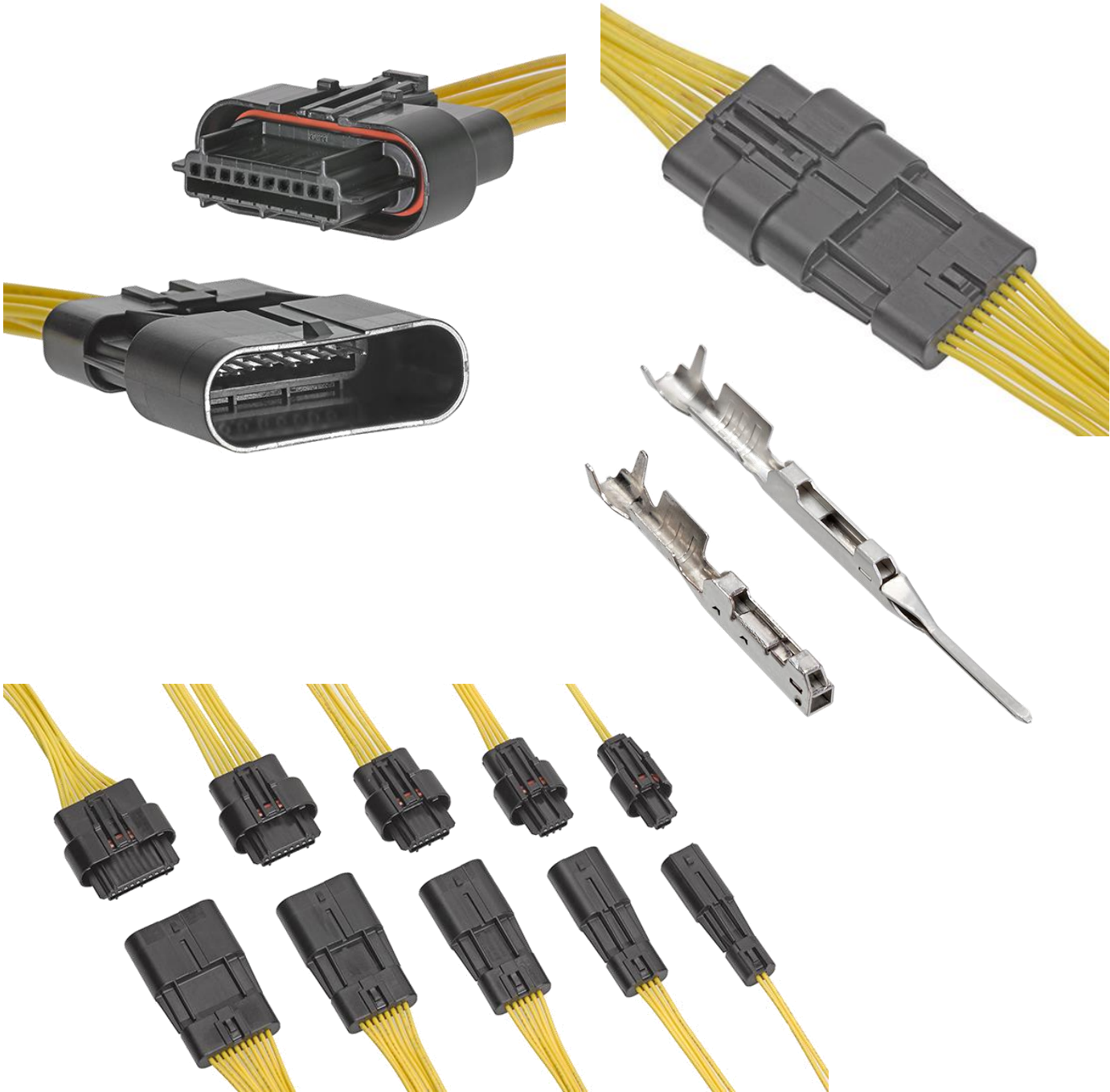


PRODUCT FAMILY NAME

Squba 1.8

INTERCONNECT SYSTEMS



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| REVISION DESCRIPTION | APPLICATION SPECIFICATION, SQUBA 1.8 | | | | | | |
| CHANGE NO. | 825240 | | | | | | |
| REVISED BY | SUAIFR | DATE | 2025/06/09 | DOC TYPE | DOC TYPE DESCRIPTION | DOC PART | SERIES |
| REV APPR BY | GANESY | DATE | 2025/06/12 | PS | ENGINEERING SPECIFICATION WORD | 000 | 204220 |
| INITIAL RELEASE | | | | CUSTOMER | DOCUMENT NUMBER | REVISION | SHEET |
| INITIAL DRWN | TGREGORI | DATE | 2017/12/07 | GENERAL MARKET | 2042200000-AS | C4 | 1 OF 25 |
| INITIAL APPR | RHODGE | DATE | 2018/02/02 | | | | |

1.0 SCOPE

This Application Specification covers the application and end-usage requirements for the Squba 1.8 Sealed Wire-To-Wire, 1.80mm pitch single row connector series which uses copper terminals with tin plated contact interface terminated with 22 to 26 AWG wire using Molex crimp technology. The mated system meets IP68 requirements.

2.0 PRODUCT DESCRIPTION**2.1 NAMES AND SERIES NUMBER(S)**

| Description | Series Number |
|--|---------------|
| Squba 1.8, Receptacle Assembly | 204220 |
| Squba 1.8, Receptacle Assembly with Key/Colors | |
| Squba 1.8, Receptacle Assembly with Key/Colors and CPA | |
| Squba 1.8, Plug Assembly | 204223 |
| Squba 1.8, Plug Assembly with Key/Colors | |
| Squba 1.8, Plug Assembly with Clip Slot | |
| Squba 1.8, Plug Assembly with Clip Slot and Key/Colors | |
| Squba 1.8, Receptacle Crimp Terminal | 204301 |
| Squba 1.8, Plug Crimp Terminal | 204226 |
| Squba Plug Weather Cap | 220423 |
| Squba Receptacle Weather Cap | 220424 |
| Squba Seal Plug | 224247 |

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings for the information on dimensions, materials, platings and markings.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

| | |
|---|---------------|
| Product Specification..... | 2042200000-PS |
| Receptacle Assembly sales drawing..... | 2042200000-SD |
| Plug Assembly sales drawing..... | 2042230000-SD |
| Receptacle Crimp Terminal sales drawing..... | 2043010000-SD |
| Plug weather Cap sales drawing..... | 2204230000-SD |
| Receptacle Weather Cap sales drawing..... | 2204240000-SD |
| Plug Crimp Terminal sales drawing..... | 2042260000-SD |
| Seal Plug sales drawing..... | 2242470000-SD |
| Test Summary..... | 2042200000-TS |
| Test Summary..... | 2042200100-TS |
| Receptacle Assembly Packaging Specification..... | 2042200000-PK |
| Plug Assembly Packaging Specification..... | 2042230000-PK |
| Plug Assembly with Clip Slot Packaging specification..... | 2042230100-PK |
| Receptacle Crimp Terminal Packaging Specification..... | 2042200000-PK |
| Plug Crimp Terminal Packaging Specification..... | 2042230000-PK |
| Plug weather Cap Packaging Specification | 2204230000-PK |
| Receptacle Weather Cap Packaging Specification | 2204240000-PK |
| Seal plug Packaging Specification | 2242480000-PK |

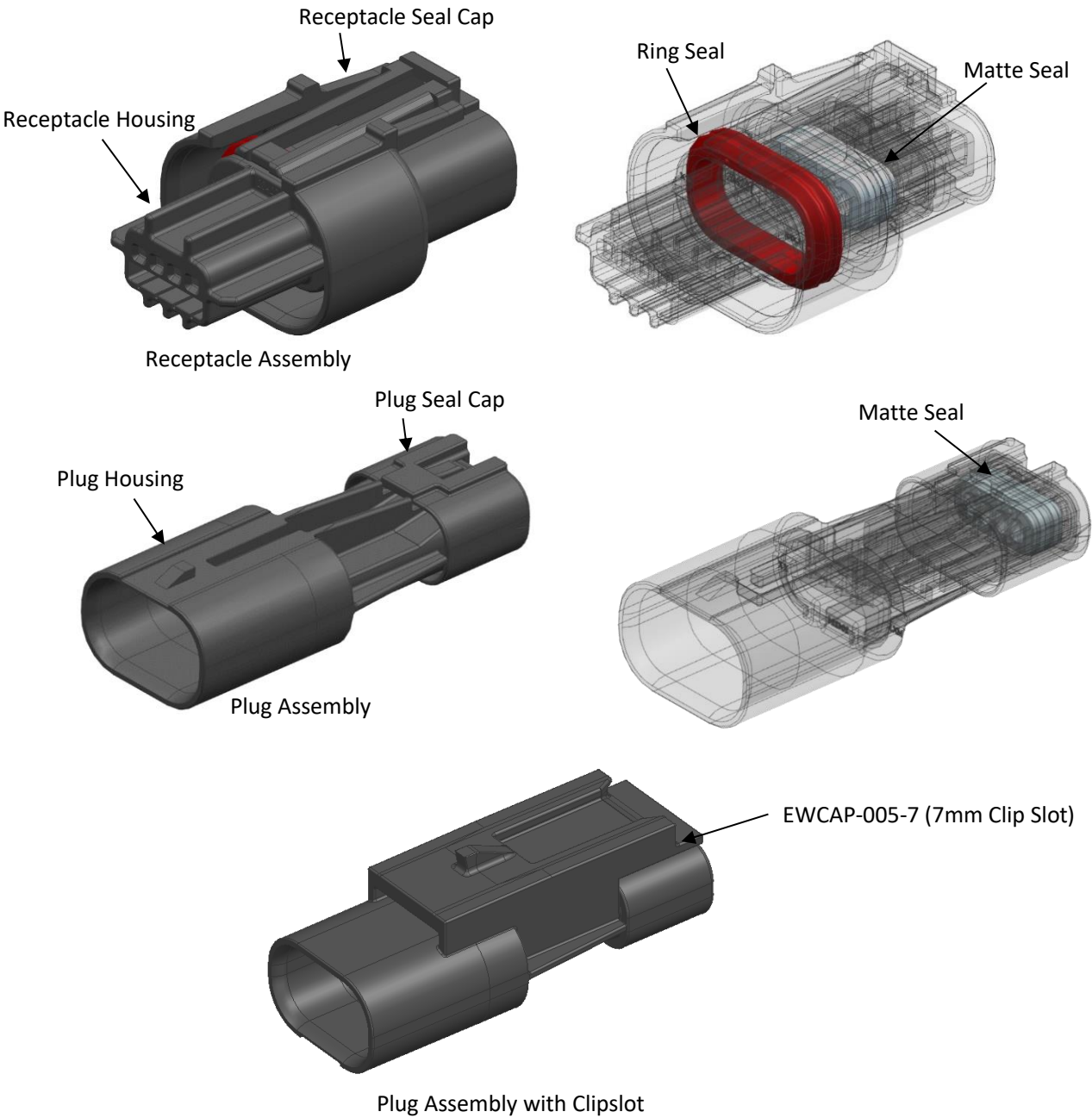
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| INITIAL APPR | RHODGE | DATE | 2018/02/02 | | | | |

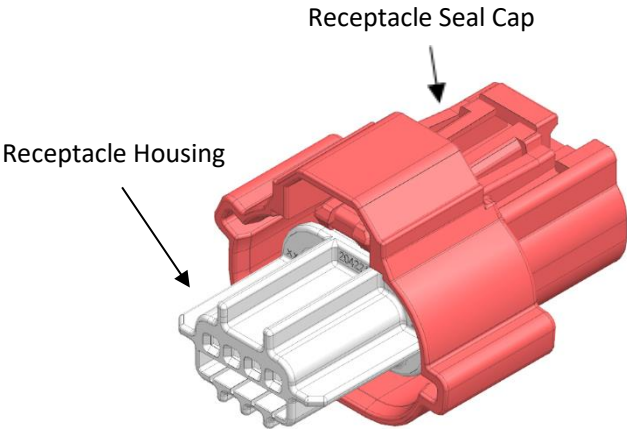
| | |
|--|--------------------------|
| Applicator Tool Crimp Specification 22 - 24 AWG..... | 638083700, 2130690500 |
| Applicator Tool Crimp Specification 26 AWG..... | 213069-7600 |
| Hand Tool Crimp Specification 22 - 24 AWG | 2002180400 |
| Hand Tool Crimp Specification 26 AWG..... | 223863-4700 |

4.0 PRODUCT DEFINITION

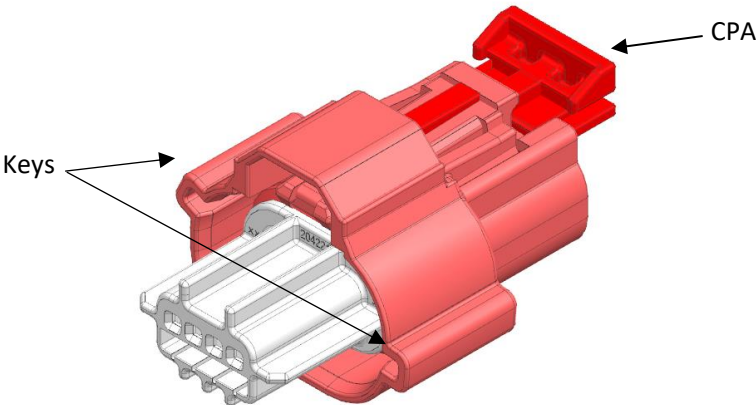
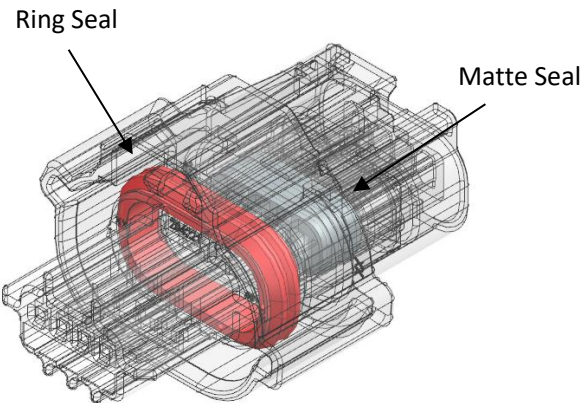
4.1 CONNECTOR ASSEMBLIES
(4 CKT CONNECTORS SHOWN)



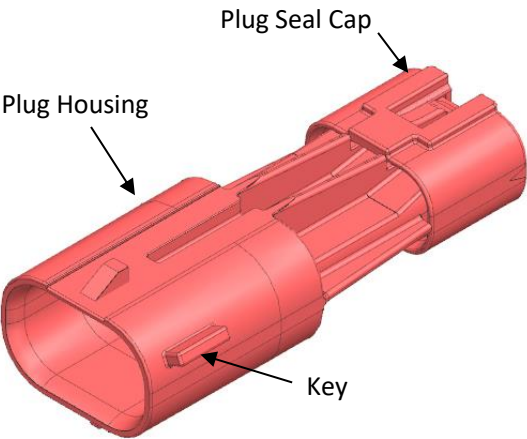
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| INITIAL APPR | RHODGE | DATE | 2018/02/02 | | | | | |
| | | | | | | | | 3 OF 25 |



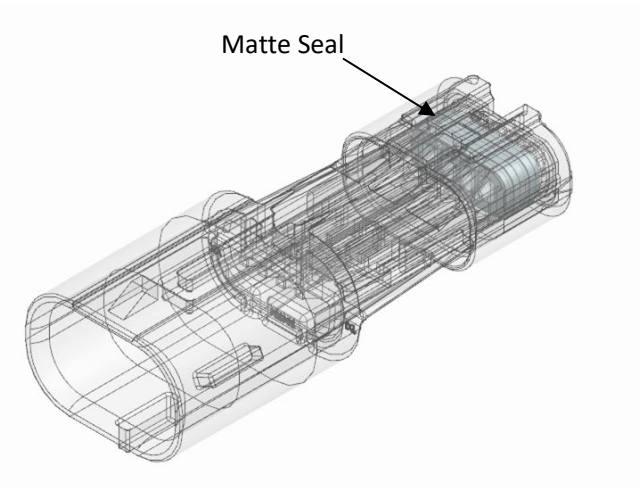
Receptacle Assembly with Key



Receptacle Assembly with Key and CPA

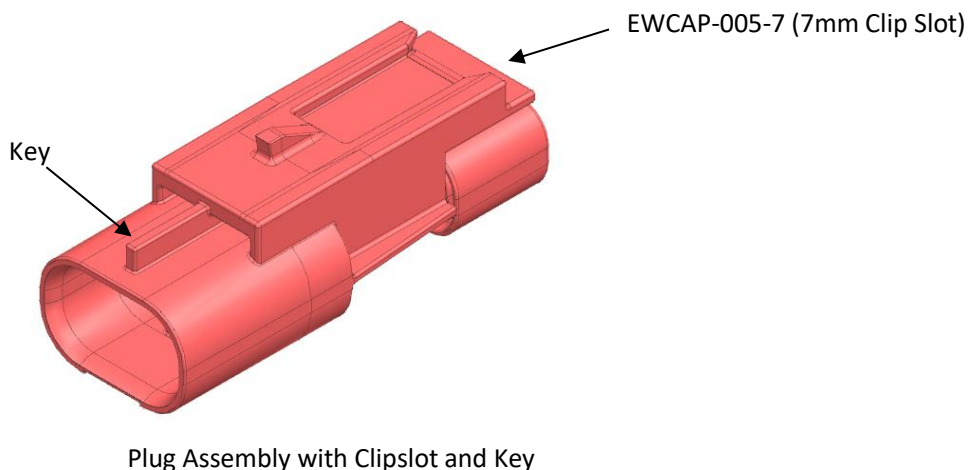


Plug Assembly with Key

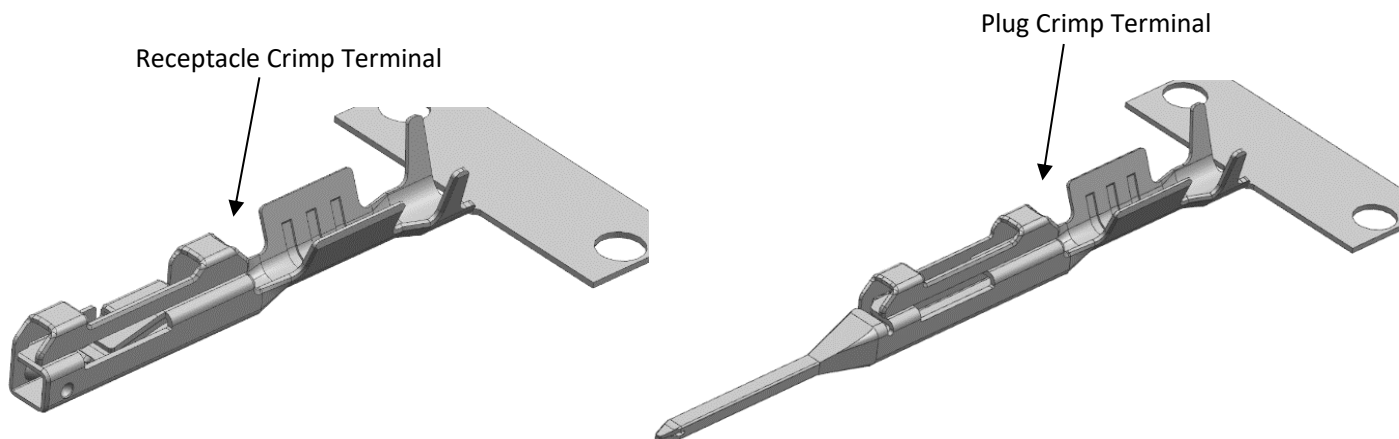


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| INITIAL APPR | RHODGE | DATE | 2018/02/02 | | | | |
| | | | | | | | SHEET |



4.2 CRIMP TERMINALS

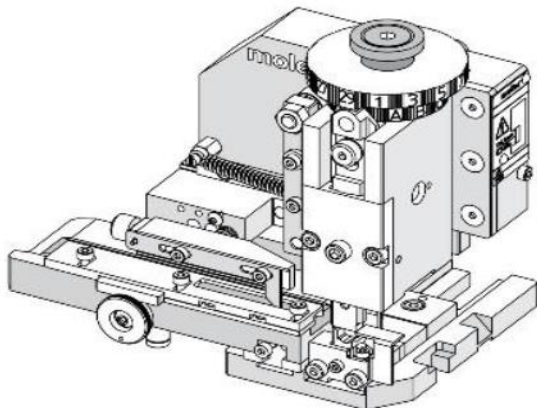


| Description | Order Number | Crimp Spec Document Number |
|---|--------------|----------------------------|
| Crimp Applicator for Receptacle Terminal | 638083700 | 638083700 |
| Crimp Applicator for Plug Terminal | 2130690500 | 2130690500 |
| Crimp Hand Tool for Plug and Receptacle Terminals | 2002180400 | 2002180400 |
| Crimp Applicator for Plug and Receptacle Terminals 26 AWG | 2130697600 | 2130697600 |
| Crimp Hand Tool for Plug and Receptacle Terminals 26 AWG | 2238634700 | 2238634700 |

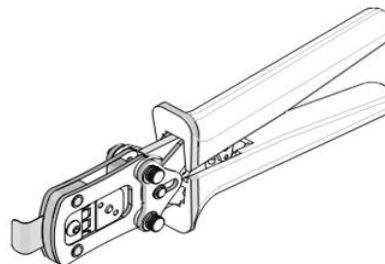
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| INITIAL APPR | RHODGE | DATE | 2018/02/02 | | | | |
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| | | | | | | | 5 OF 25 |

Crimp Applicator



Hand Tool

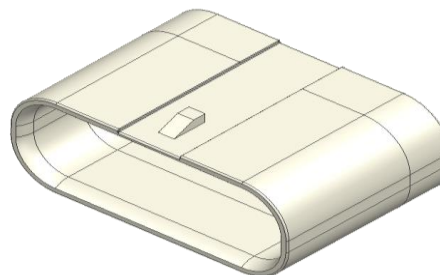


4.3 WEATHER CAPS

Plug Weather Cap



Receptacle weather cap



4.4 SEAL PLUGS

Male Seal plug



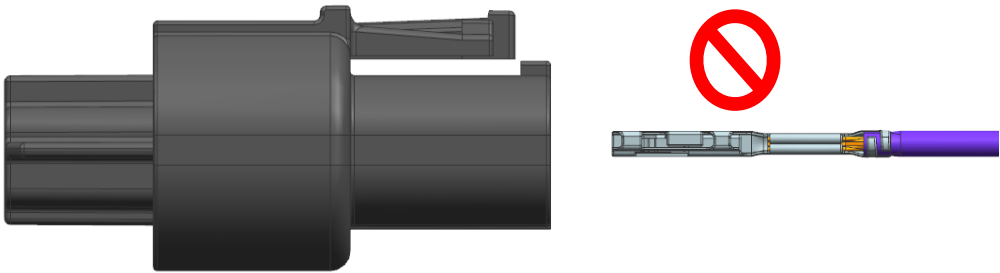
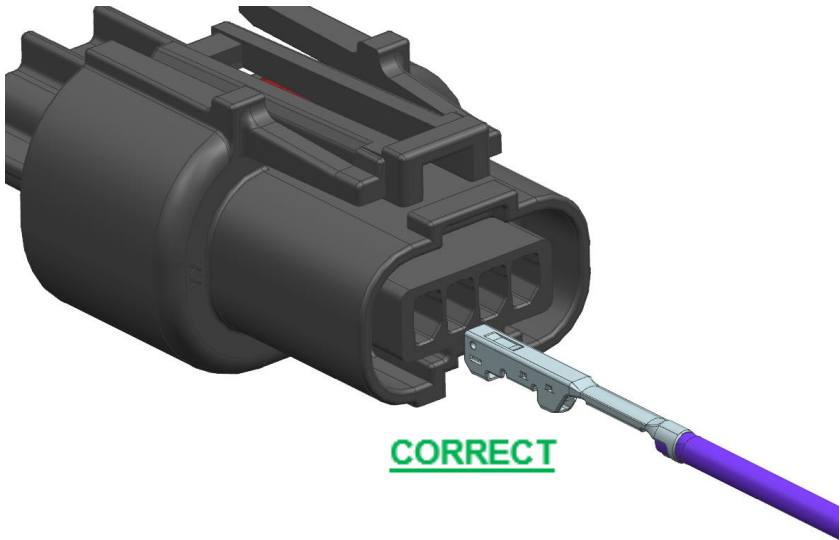
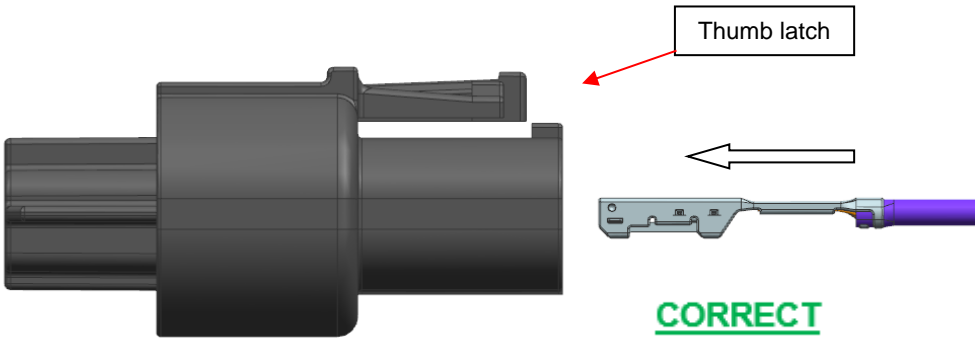
Female Seal plug



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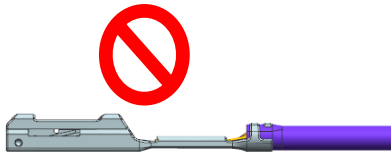
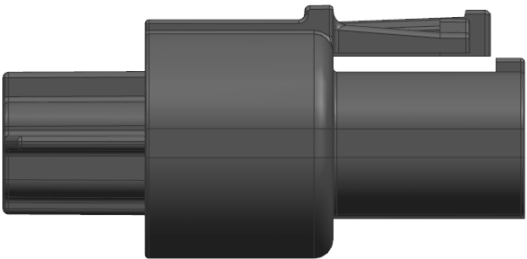
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|--|--|--------------------------------------|--|----------|--|------------|--|-----------------|--|--------------------------------|--|----------|--|---------|--|
| molex | | APPLICATION SPECIFICATION | | | | | | | | | | | | | |
| 5.0 <u>TERMINAL ORIENTATION DURING INSERTION INTO HOUSING</u> | | | | | | | | | | | | | | | |
| <p>Terminals are to be inserted in the housings as shown below on sheet 8-11. Notice the orientation of the terminal body relative to the receptacle thumb latch and plug thumb latch hook. Notice the orientation of the terminal body relative to the latch hook. Do not force terminals into the housing cavity. The terminal and housing are designed with silicon seals and other features that will provide some light resistance during insertion as well as retention after insertion but if excessive resistance is felt during insertion pull terminal back out and double check that the terminal orientation per sheets 5-8. Terminals are to be inserted until they are fully seated, and audible click is heard. The housing provides a stopping surface, and the housing lock finger provides terminal retention, and a light audible click to indicate a fully inserted terminal. You can use the PUSH → CLICK → PULL method (sheet 10) during terminal insertion to ensure fully seated terminal.</p> | | | | | | | | | | | | | | | |
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| INITIAL APPR | | RHODGE | | DATE | | 2018/02/02 | | | | | | | | | |
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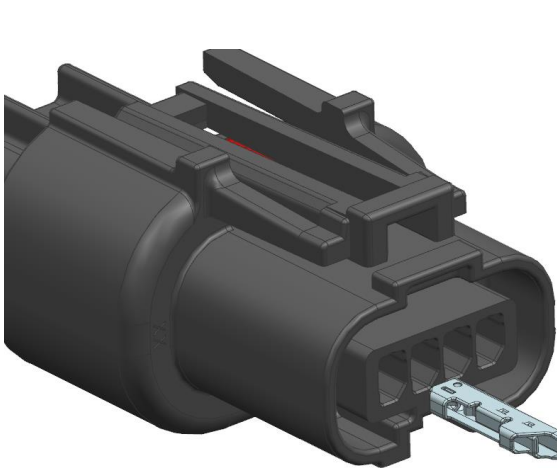


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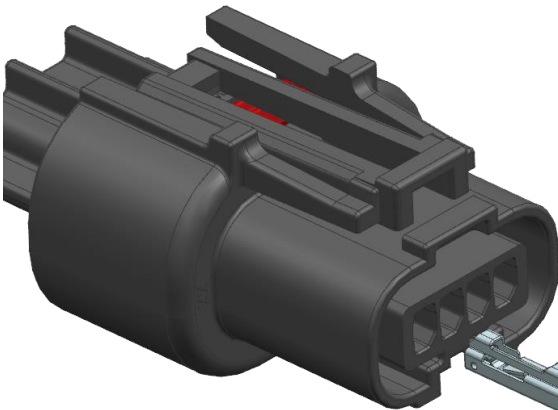
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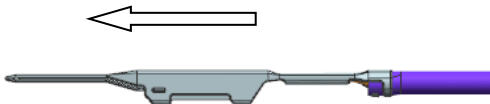
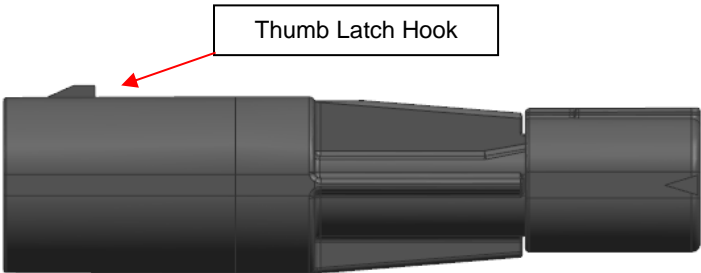
INCORRECT



INCORRECT



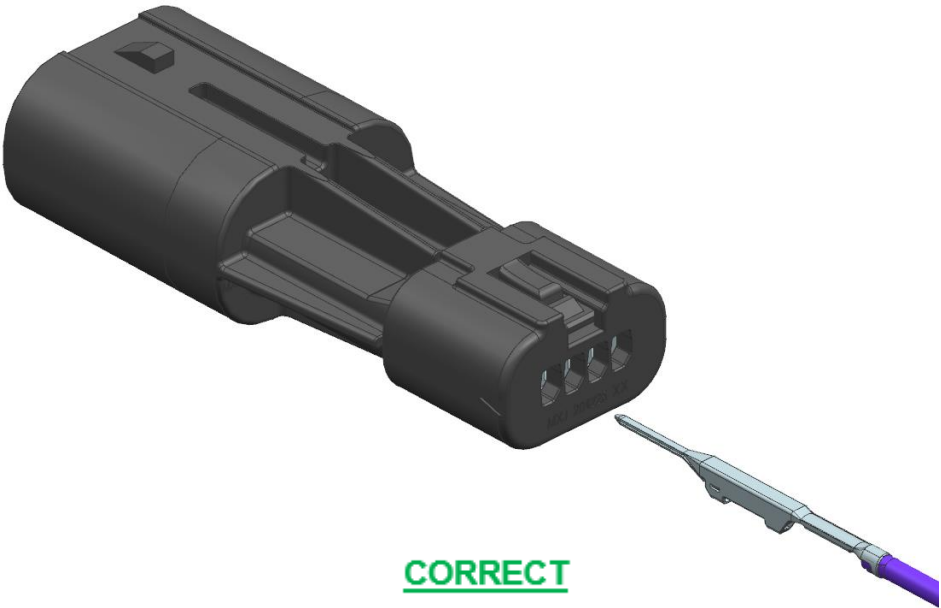
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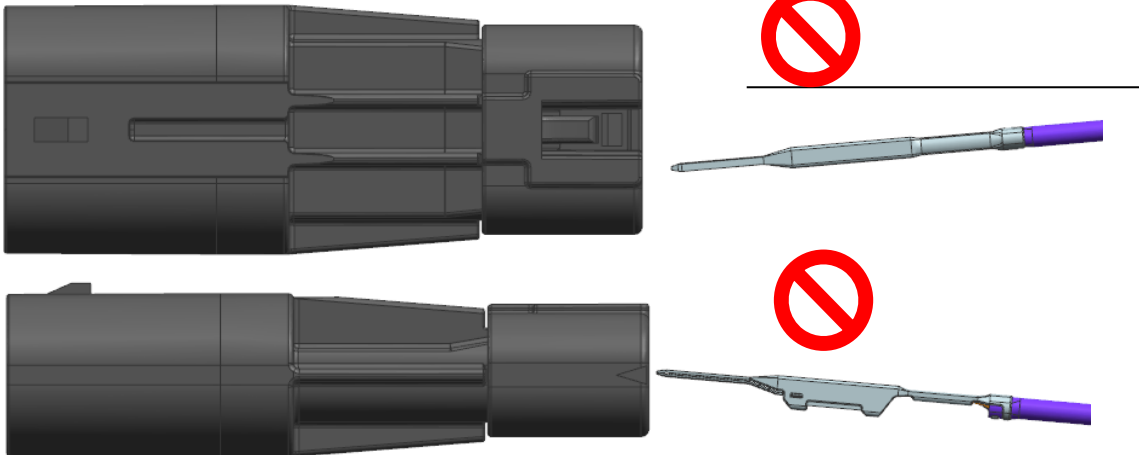
CORRECT

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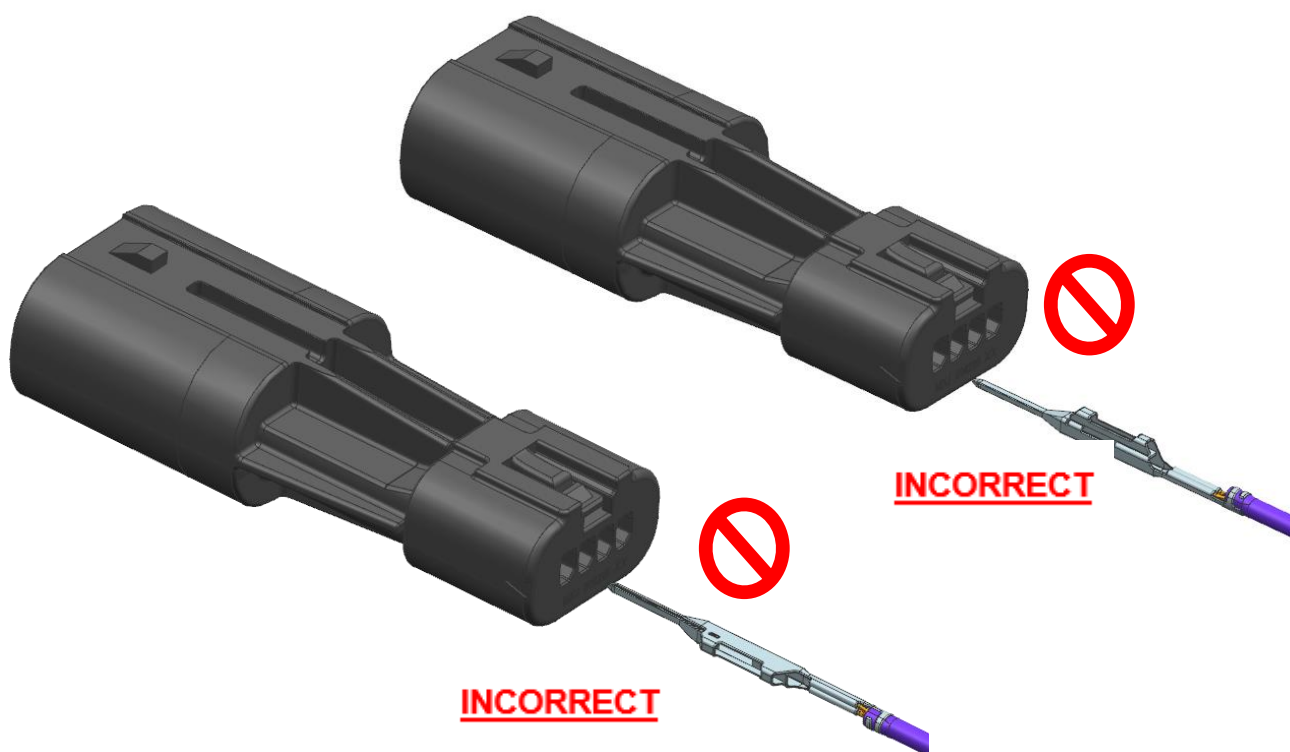
INSERTION SKEW



Care must be taken while handling plug terminals. Terminal skew in any direction must be avoided while terminal insertion into plug housing.

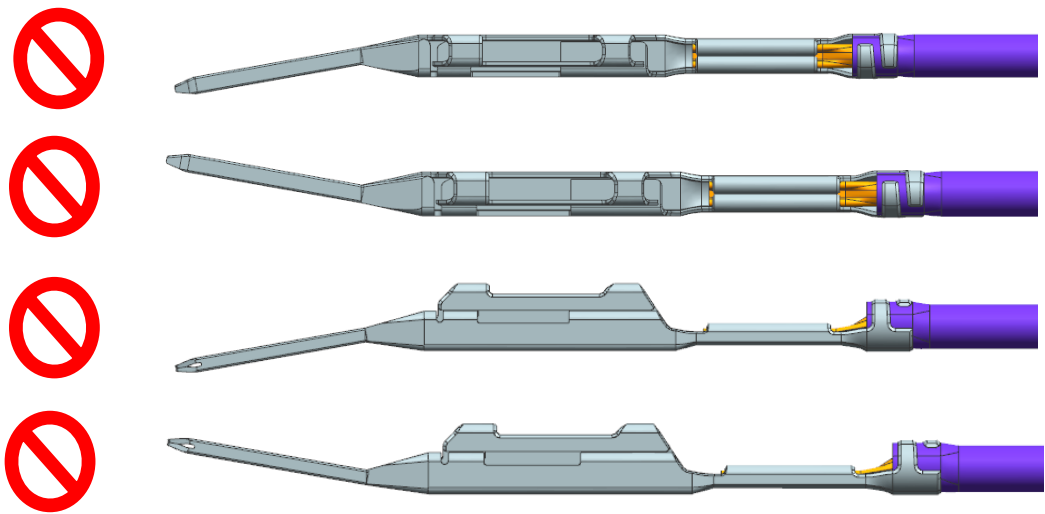
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| INITIAL DRWN | TGREGORI | DATE | 2017/12/07 | GENERAL MARKET | | 2042200000-AS | | C4 | 11 OF 25 |
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**CARE MUST BE TAKEN WHEN HANDLING THE TERMINAL PINS. DO NOT
USE OR TRY TO ATTEMPT TO REWORK BENT OR DAMAGED TERMINAL PINS**



6.0 TERMINAL REMOVAL FROM THE HOUSING

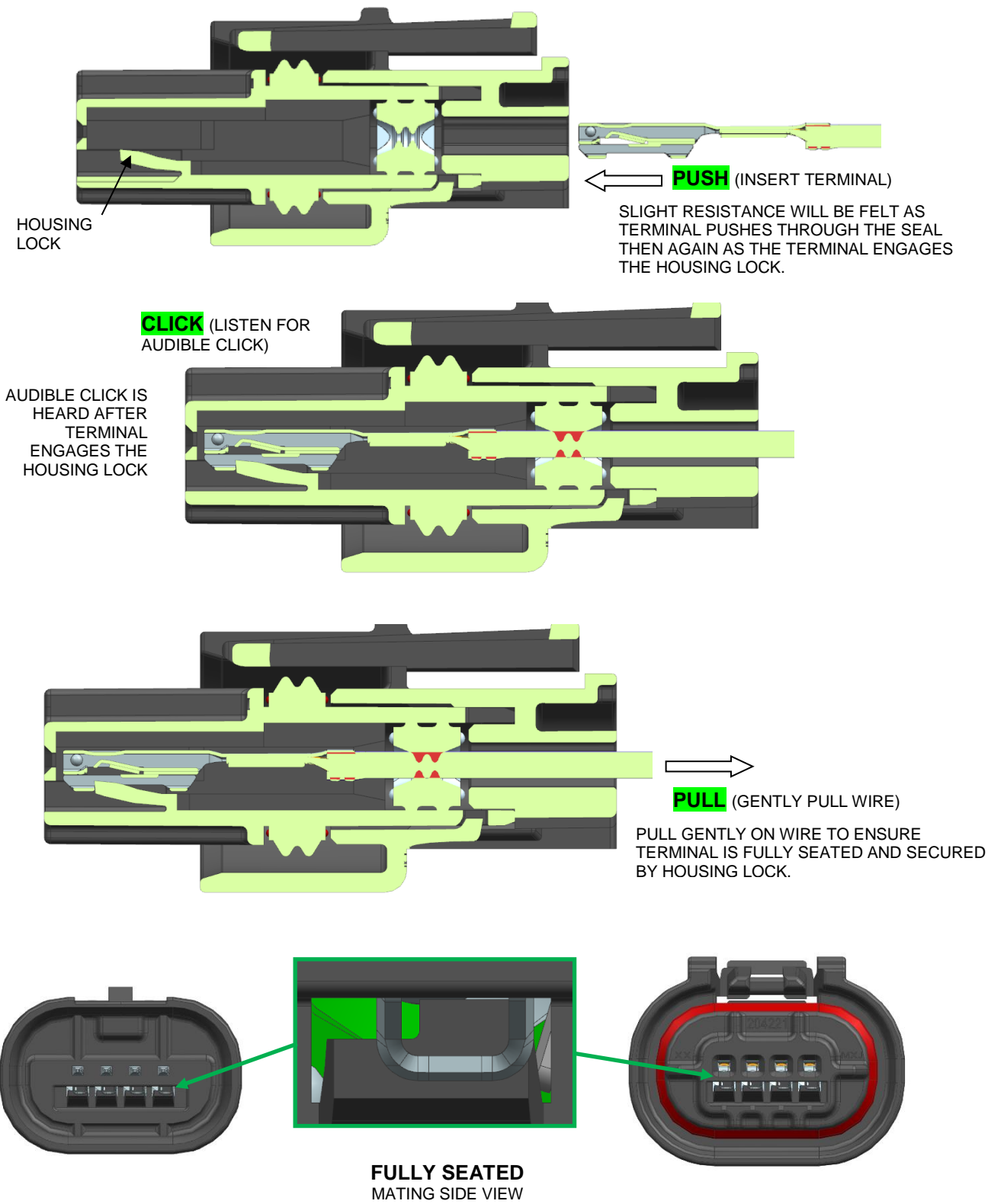
Terminals are NOT intended to be removed from housings to prevent seal damage. Be sure terminals are not damaged and are being inserted into the correct circuit before terminals are inserted.

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PUSH → CLICK → PULL

(APPLIES TO BOTH RECEPTACLE AND PLUG)



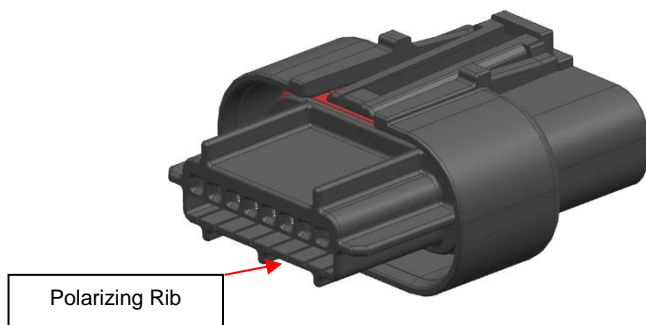
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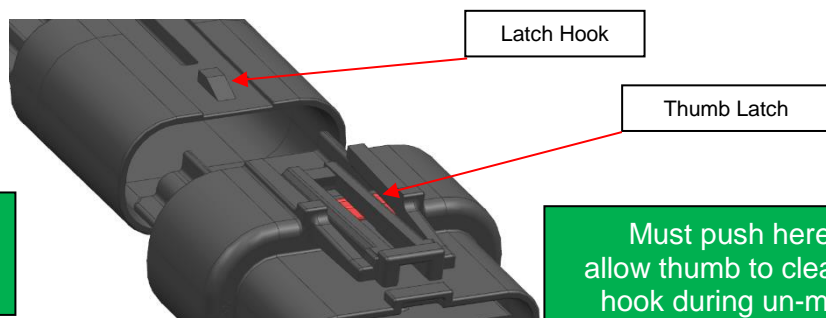
7.0 MATING AND UN-MATING

7.1 CONNECTORS

This product contains a polarization feature to ensure proper orientation during mating. This rib feature is shown below. When mated in the improper orientation this rib feature will not allow the product to be mated.

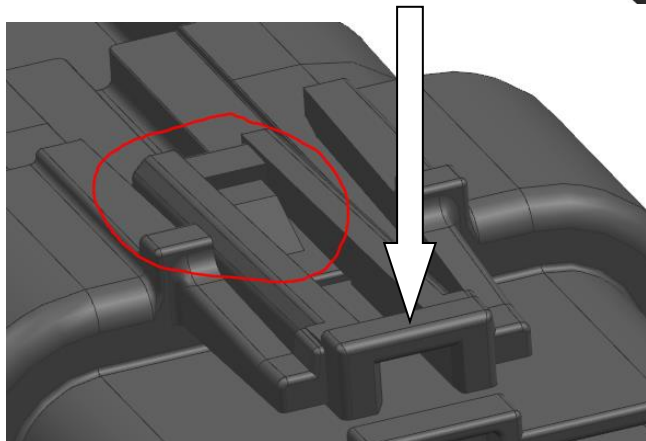


This product also contains a positive locking thumb latch and corresponding latch hook to ensure full mating and prevent accidental un-mating during normal operation. This thumb latch and latch hook features and full mating of the connectors occurs when and after the thumb latch is fully engaged and locked as shown below. A light audible click is heard to indicate fully mated connectors.



Must push here to allow thumb to clear plug hook during un-mating

Must push here to allow thumb to clear plug hook during un-mating

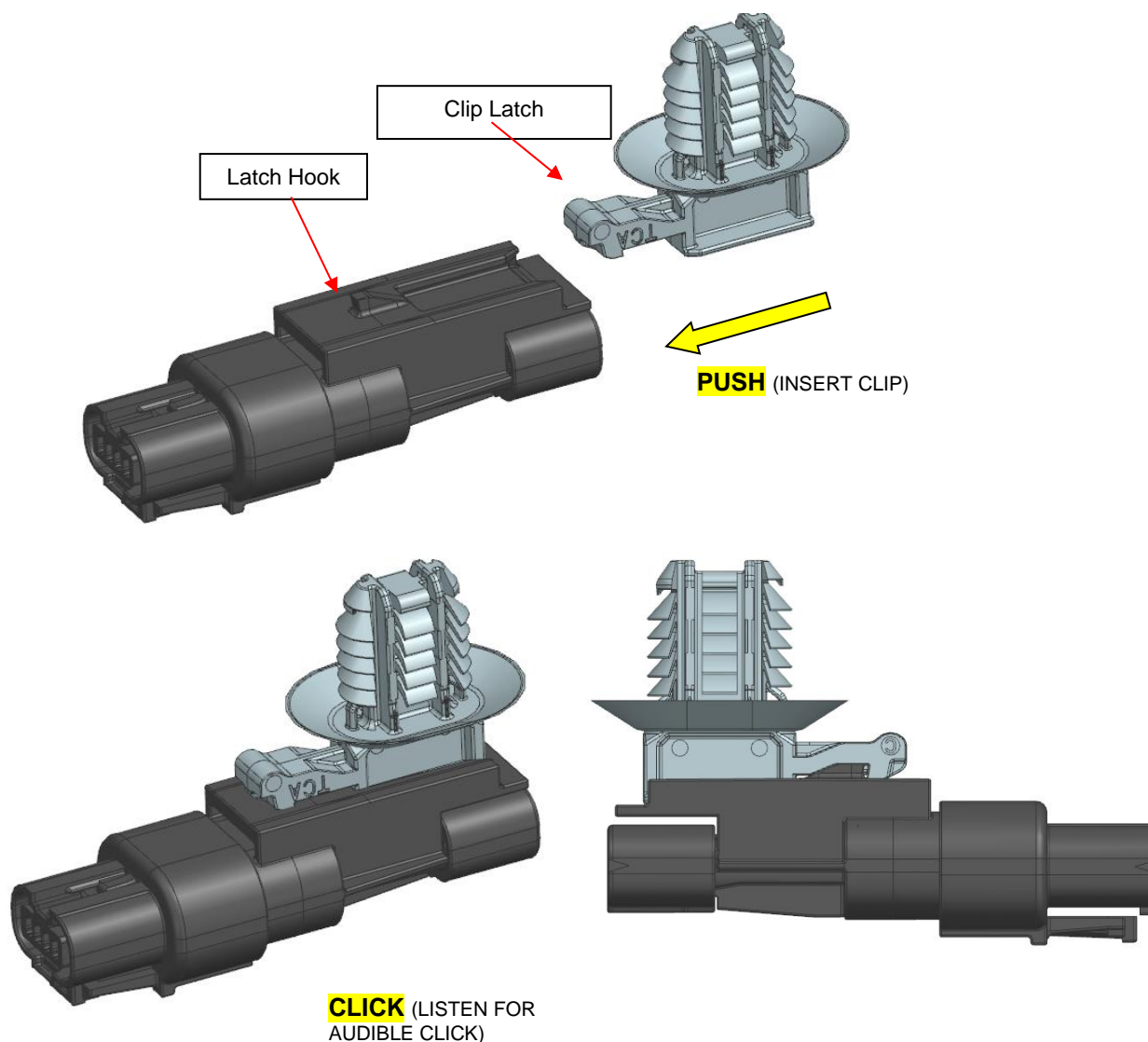


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| CHANGE NO. | 825240 | | | | | | |
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7.2 PLUG WITH CLIP SLOT AND CLIP

This product contains a Clip slot Feature which is compatible with USCAR-2 Compliant EWCAP-005-7; 7mm Standard Clip slot and Mates with all 7mm Clips intended to mate with interface provided in EWCAP-005 Rev D.



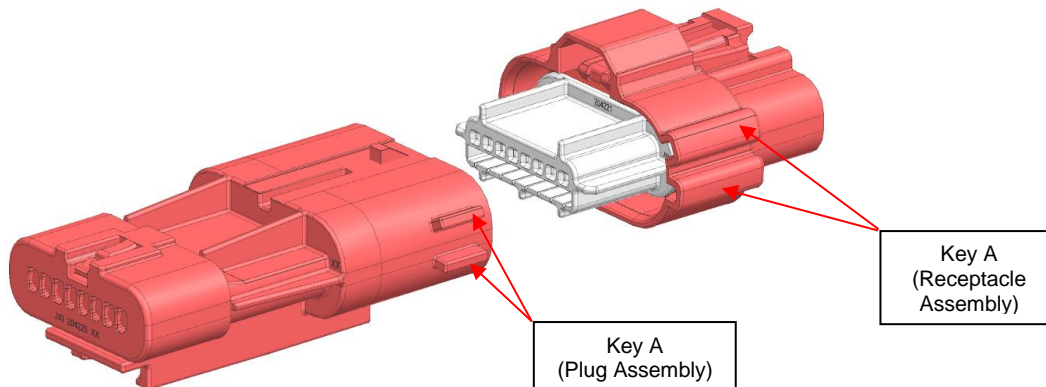
NOTE : CLIP USED IN PICTURES FOR REPRESENTATIONAL PURPOSE ONLY. MOLEX RECOMMENDS TO USE CLIPS WHICH ARE INTENDED TO BE USED WITH EWCAP- 005 7MM CLIP SLOT

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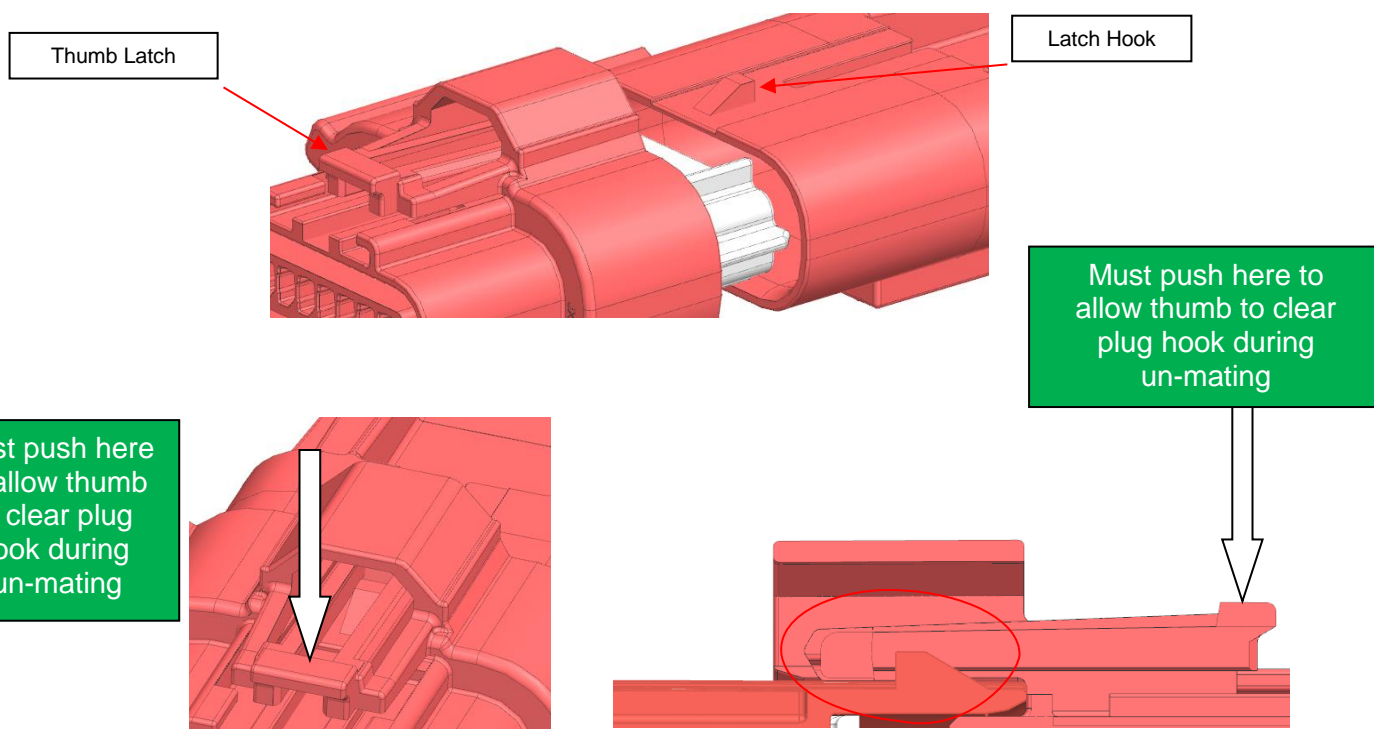
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7.3 CONNECTORS WITH KEY/COLORS

This product contains a keying feature to ensure correct orientation during mating. The Key A configuration, illustrated below, prevents improper connections. If a receptacle assembly with Key A is mated with a plug assembly of a different key type, the keying feature will block the mating. To ensure proper mating, always match corresponding key types—for example, a plug assembly with Key A will only mate with a receptacle assembly with Key A. Mismatched key types will not engage.



This product also contains a positive locking thumb latch and corresponding latch hook to ensure full mating and prevent accidental un-mating during normal operation. This thumb latch and latch hook features and full mating of the connectors occurs when and after the thumb latch is fully engaged and locked as shown below. A light audible click is heard to indicate fully mated connectors.

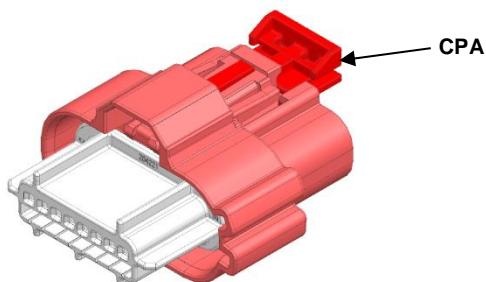


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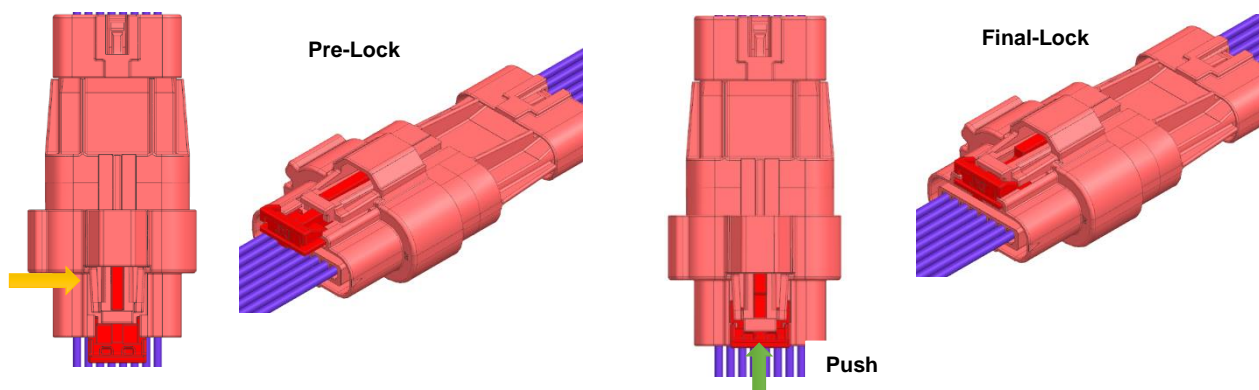
7.4 CONNECTORS WITH KEY/COLORS & CPA

This product contains CPA part which enhances mating assurance and provides secure locking. The CPA will be shipped in “pre-lock” condition along with the receptacle assembly.



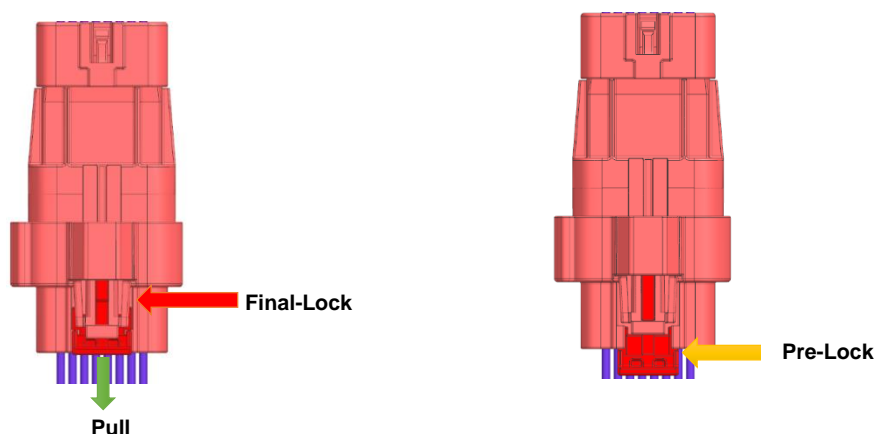
ACTIVATING THE CPA

Once the plug and receptacle are fully mated, push the CPA from “pre-lock” to the “final-lock” position until a positive engagement indicating the CPA is locked with no further movement. Please note, the CPA will move smoothly only when the connector assemblies are completely mated with the plug.



DEACTIVATING THE CPA

To operate the thumb latch or unmate the connector, the CPA must first be deactivated. Gently pull the CPA from the “final-lock” position back to “pre-lock” position with your finger. This action deactivates the CPA, allowing the user to engage the thumb latches and proceed with the unmating process.

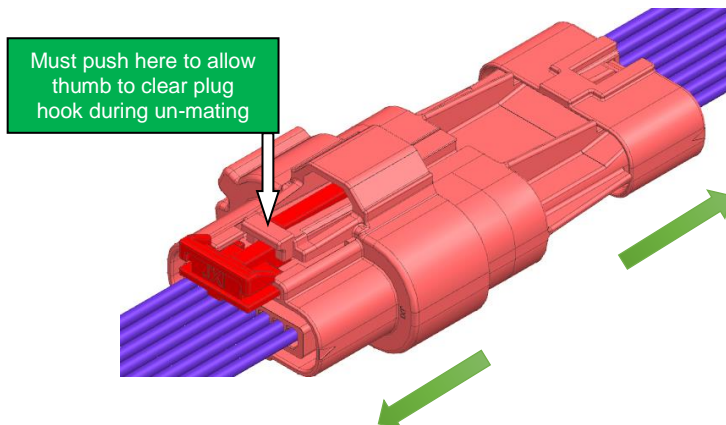


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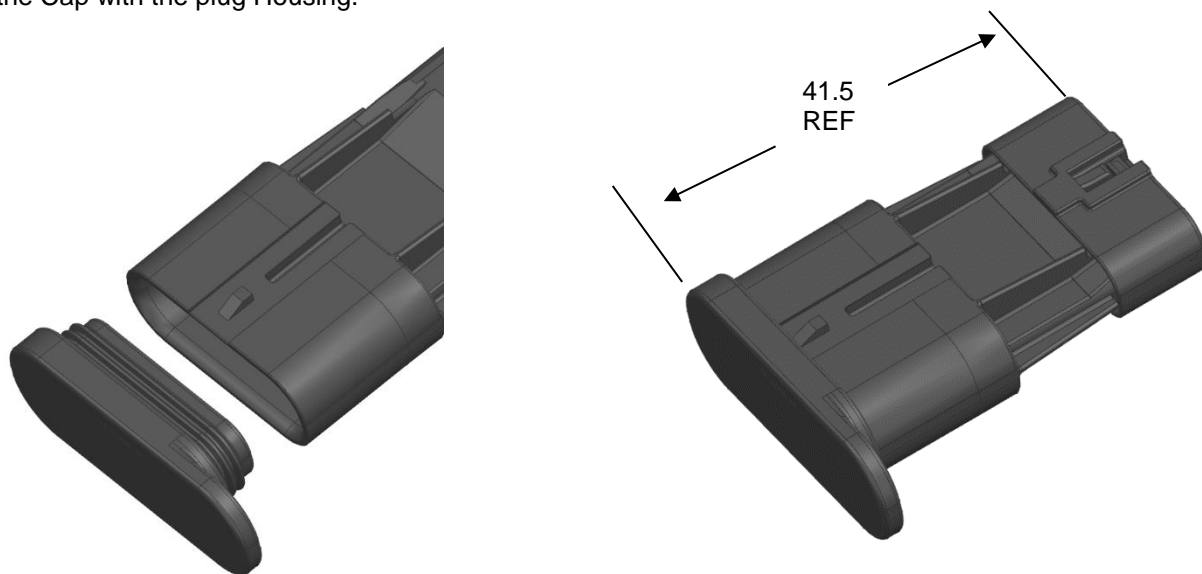
CONNECTOR UNMATING (WITH KEY/COLORS AND WITH KEY/COLORS & CPA)

To unmate the connectors, first deactivate the CPA (in case your receptacle is equipped with CPA). Grip the mated assembly firmly. Depress the thumb latch with your thumb in the below specified zone. Once the thumb latch is fully disengaged, gently pull the connector assemblies apart.



7.4 WEATHER CAPS

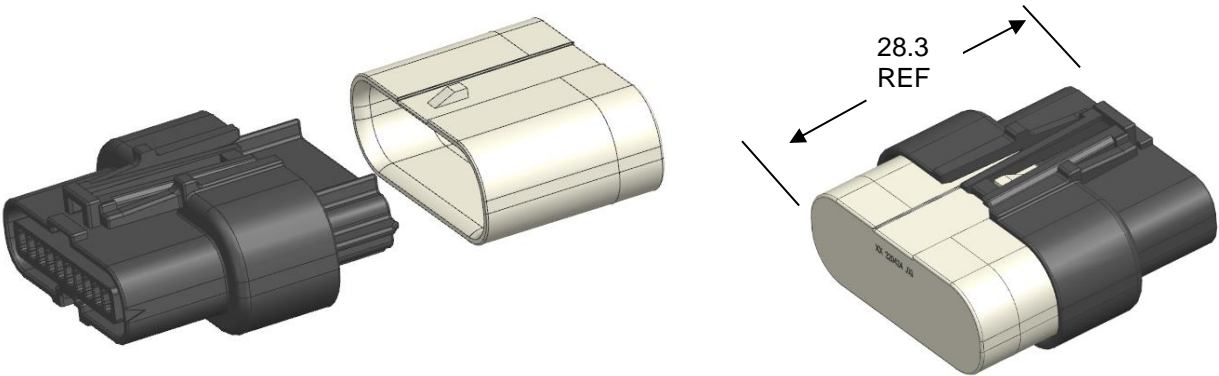
Plug Weather Caps are to be inserted in the Plug housings as shown below. Notice the orientation of the Cap with the plug Housing.



Receptacle weather cap can be mated to receptacle which a positive locking thumb latch and corresponding latch hook to ensure full mating and prevent accidental un-mating during normal operation. This thumb latch and latch hook features and full mating of the assembly occurs when and after the thumb latch is fully engaged and locked as shown below. A light audible click is heard to indicate fully mated.

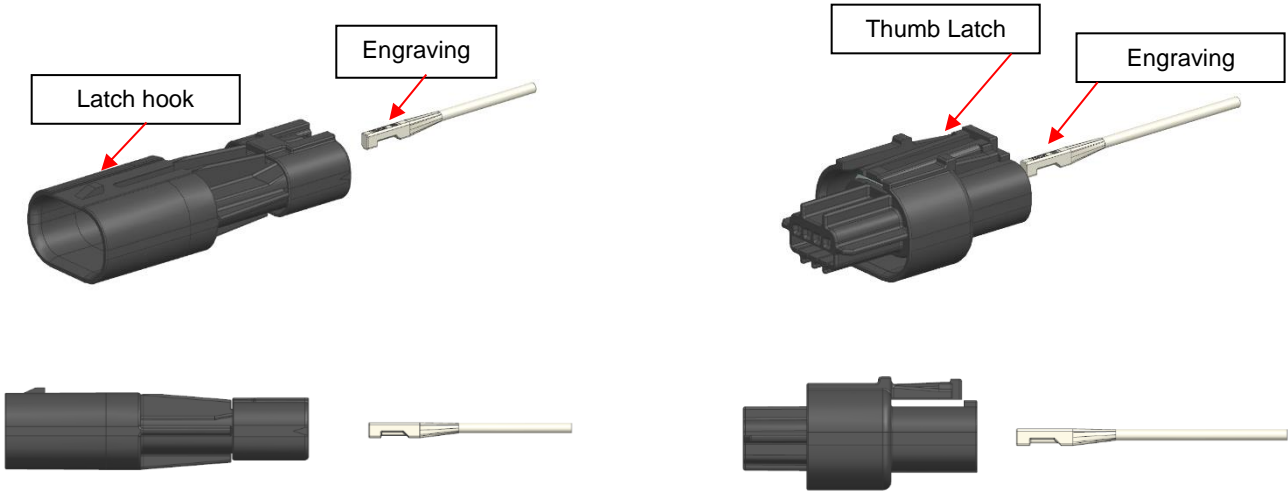
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7.4 SEAL PLUGS

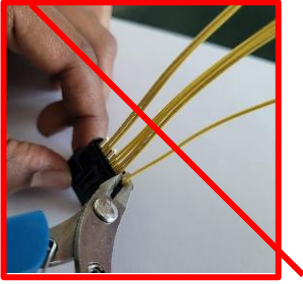
Seal plugs are to be inserted in the housings as shown below. Notice the orientation of the seal plug body relative to the receptacle thumb latch and plug thumb latch hook. Notice the orientation of the seal plug body relative to the latch hook. Do not force Seal Plug into the housing cavity. The housing is designed with silicon seals and other features that will provide some light resistance during insertion as well as retention after insertion but if excessive resistance is felt during insertion pull Seal Plug back out and double check the orientation. Seal Plugs are to be inserted until they are fully seated, and audible click is heard. The housing provides a stopping surface, and the housing lock finger provides seal plug retention and a light audible click to indicate a fully inserted plug. You can use the PUSH - CLICK - PULL method during seal plug insertion to ensure that it is fully seated.



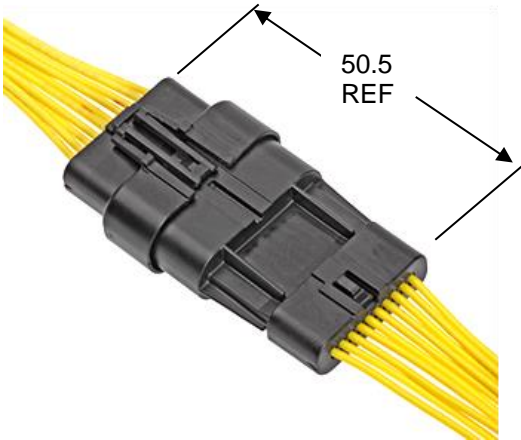
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Cavity plugs can be trimmed flush to avoid wire chafing and avoid cavity plug dislocation/push through, the decision to trim is the discretion of the user. Cavity plugs must be installed, and trimmed before wires are installed.



8.0 MATED LENGTH



9.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage. See packaging specifications listed in section 3.0 (sheet 2).

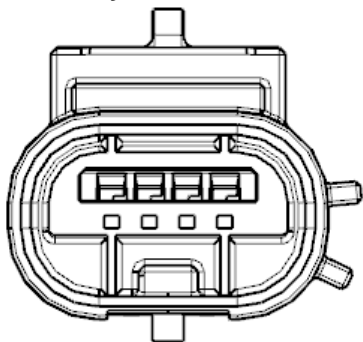
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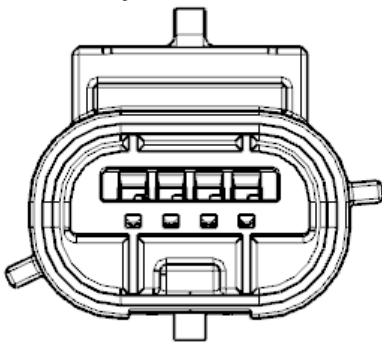
10.0 POLARIZATOIN FEATURE – KEY/COLORS

10.1 PLUG KEY CONFIGRUATIONS

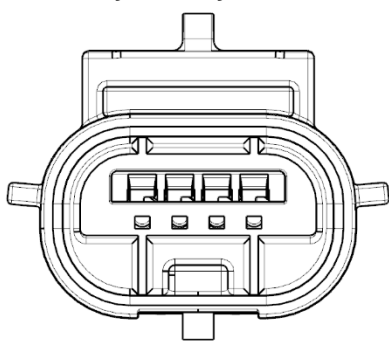
Key A, Red Color



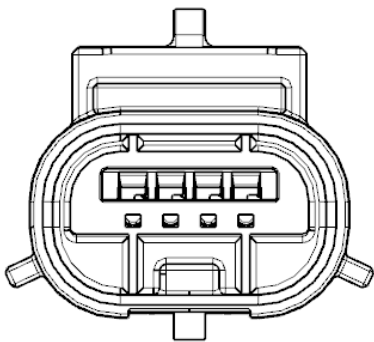
Key B, Natural Color



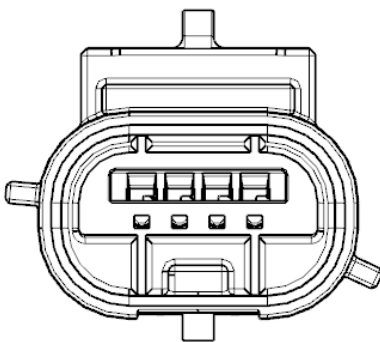
Key C, Gray Color



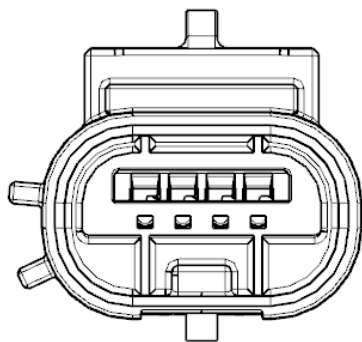
Key D, Yellow Color



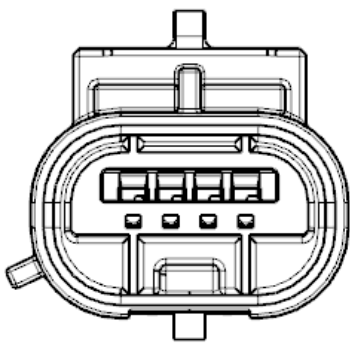
Key E, Pink Color



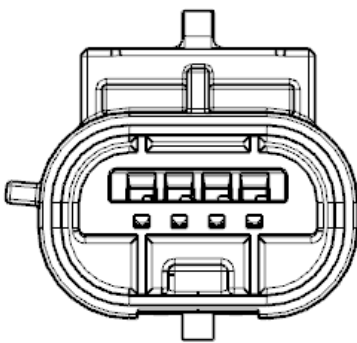
Key F, Orange Color



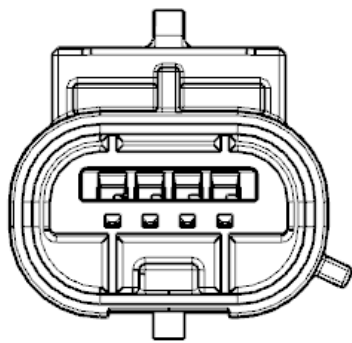
Key G, Blue Color



Key H, Green Color



Key I, Mint Color

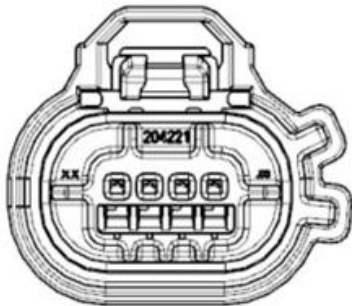


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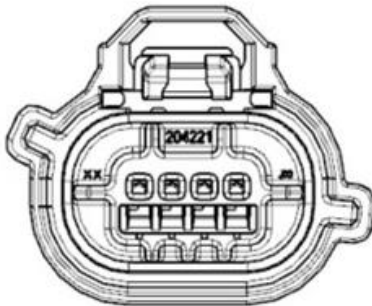
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10.2 RECEPTACLE KEY CONFIGURATIONS

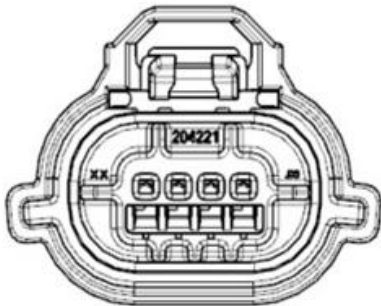
Key A, Red Color



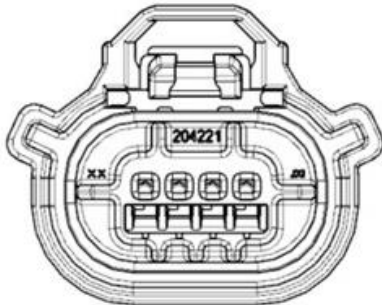
Key B, Natural Color



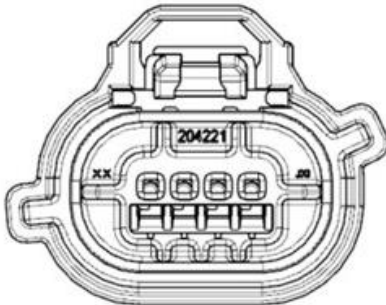
Key C, Gray Color



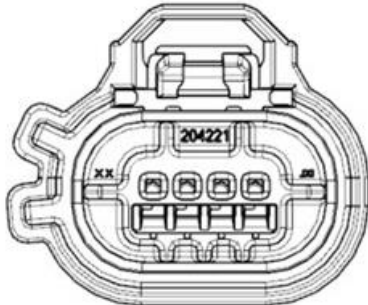
Key D, Yellow Color



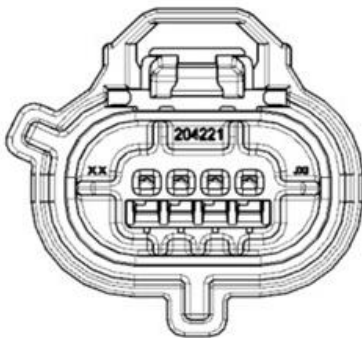
Key E, Pink Color



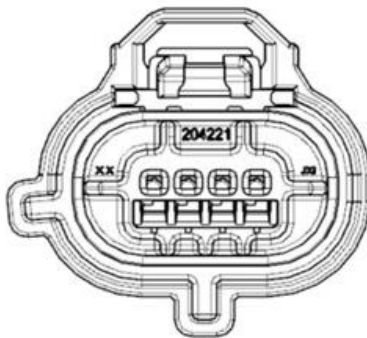
Key F, Orange Color



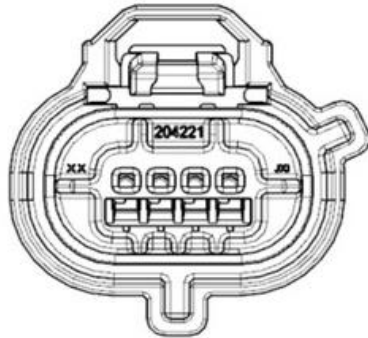
Key G, Blue Color



Key H, Green Color



Key I, Mint Color



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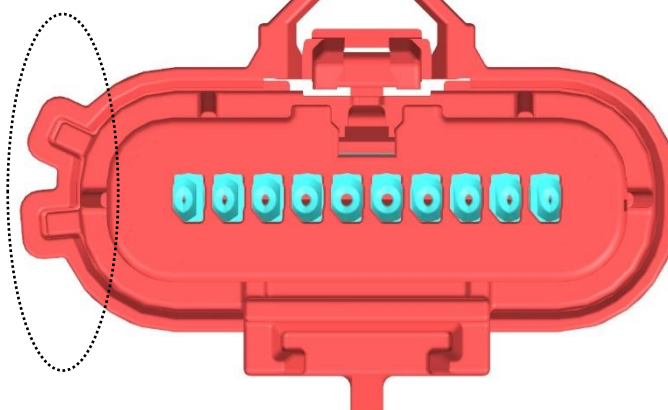
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10.3 POLARIZATION FEATURE EFFECTIVENESS

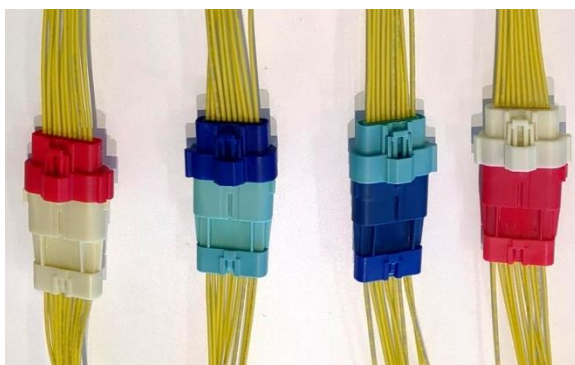
Verify the receptacle latch engagement with plug tab.



CORRECT



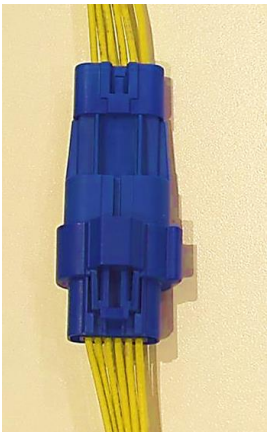
Plug and Receptacle Assembly stubs and do not mate due to incorrect keying. Use appropriate key/colored parts. Do not attempt to insert plugs and receptacles with the wrong polarizations by applying excessive force, as it will damage the parts and compromise the product's functionality. Both the plug and receptacle should have the same color/polarization



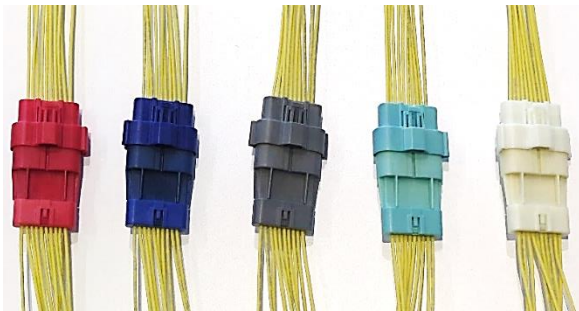
Incorrect mating: The Polarization feature resists the mating. However, with excessive force, the parts will mate, causing the housings to crack/deform. Refer Product Specification for force limits.

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Correct mating: The Polarization feature self-aligns the mating parts, such that the latch on the receptacle touches the ramp on plug without any resistance.



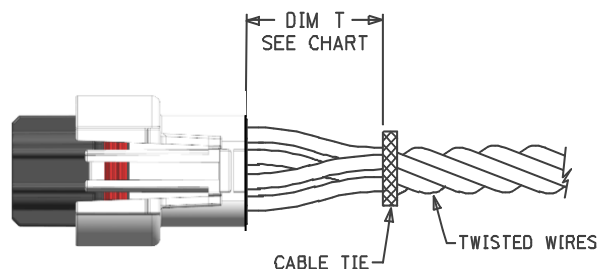
Correct mating: The connector halves are correctly mated within the mate force limits specified in the Product Specification.

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11.0 OTHER INFORMATION**11.1 CRIMP APPLICATION TOOLING****11.2 CABLE TIE AND OR WIRE TWIST LOCATION**

| CKT Size | Dim T Min. |
|----------|------------------|
| 2-6 | 50.8 mm (2.00") |
| 8 | 76.2 mm (3.00") |
| 10 | 101.6 mm (4.00") |



The "T" dimension defines a "free" length of wire, or a length of wire that is not subject to significant bias by external factors such as a wire tie, wire twisting, or other means of bending or deforming of the wires that repositions them from their natural relaxed state or location where they enter the housing. Wires are to be dressed in such a manner to allow the terminals to float freely in the pocket. This dimension is a general recommendation and may need to be adjusted for different wire gauges and wire type and insulation thickness and insulation material.

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