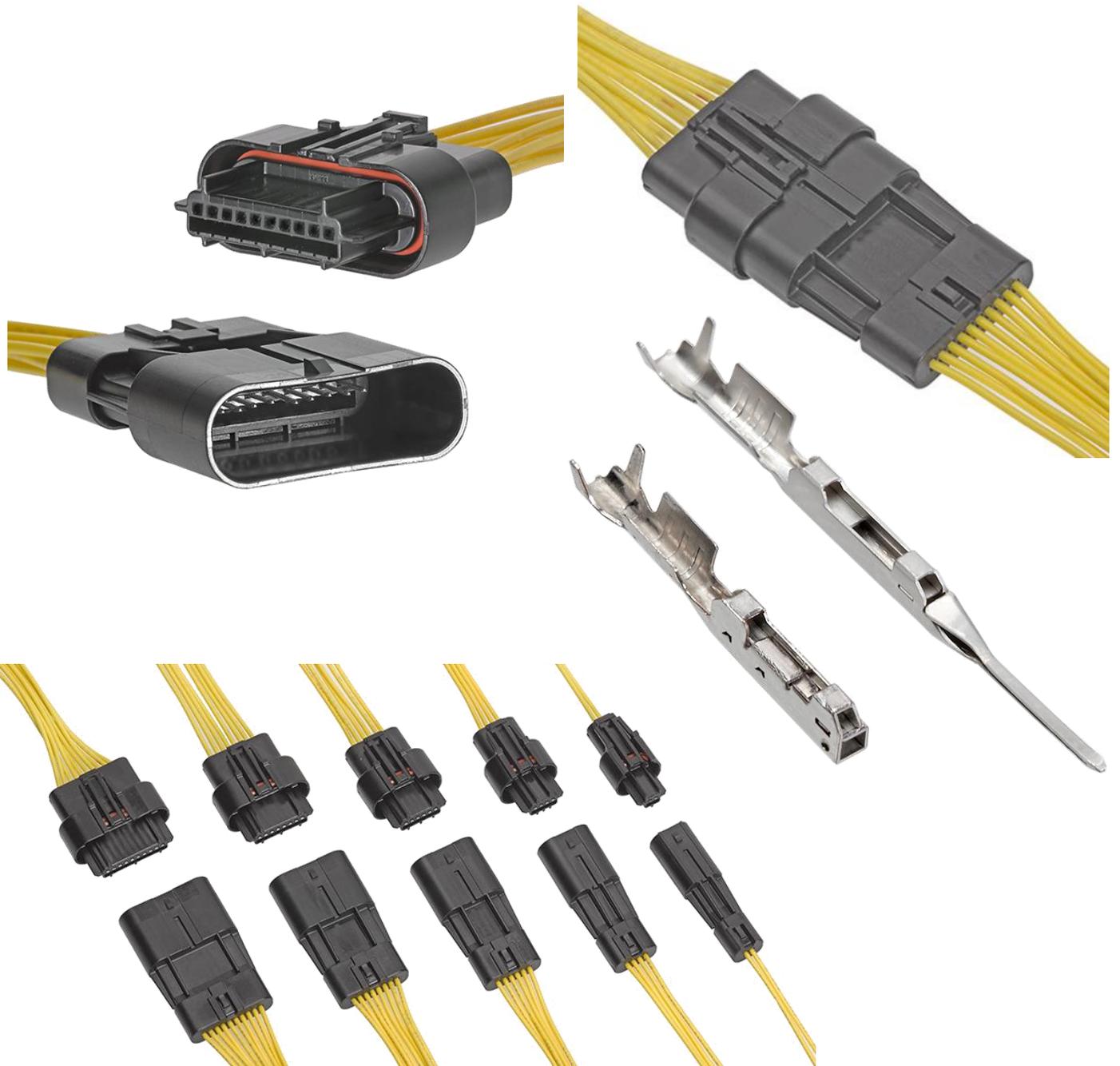




# APPLICATION SPECIFICATION

## Squba 1.8

### INTERCONNECT SYSTEMS



REVISION: <b>A2</b>	ADD MATING LENGTH EC No: 603198 DATE: 2018/08/20 KSS	TITLE: <b>APPLICATION SPECIFICATION          Squba 1.8 Interconnect System</b>	SHEET No. <b>1 of 18</b>
DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



# APPLICATION SPECIFICATION

## 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 24 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, Plug Assembly	204223
Squba 1.8, Plug Assembly with Clip Slot	204223
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.

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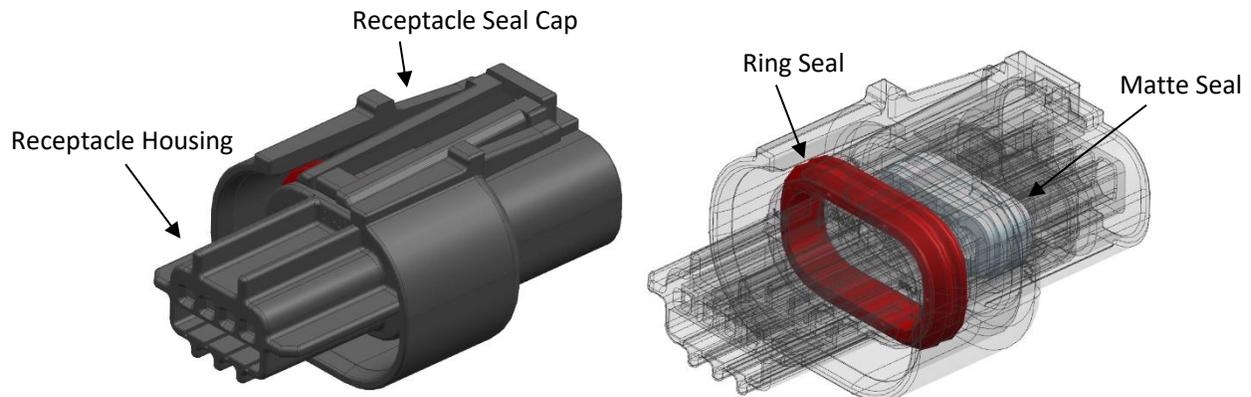
# APPLICATION SPECIFICATION

## 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
Applicator Tool Crimp Specification.....	638083700, 2130690500
Hand Tool Crimp Specification.....	2002180400

## 4.0 PRODUCT DEFINITION

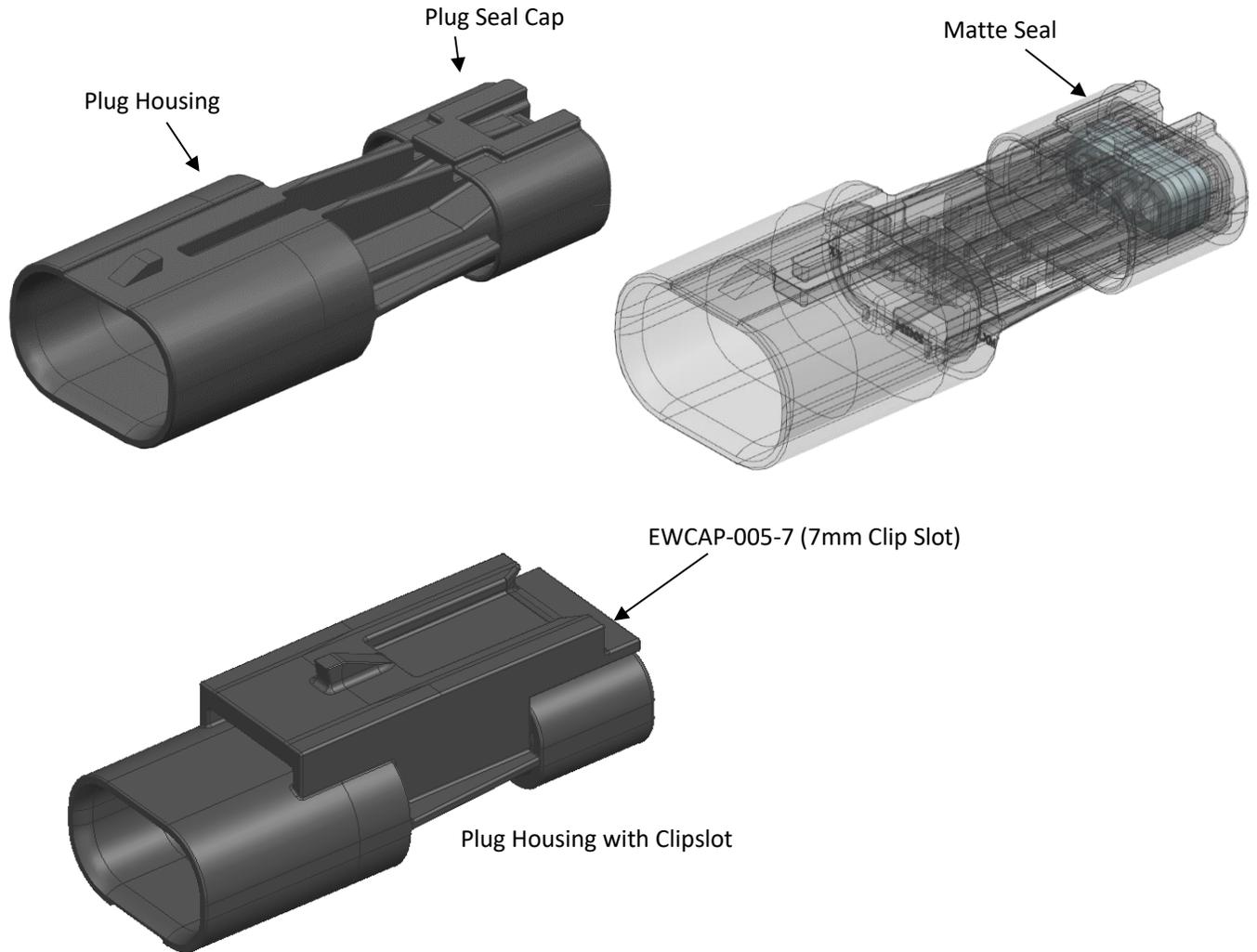
### 4.1 CONNECTOR ASSEMBLIES (4 CKT CONNECTORS SHOWN)



REVISION: <b>A2</b>	ADD MATING LENGTH EC No: 603198 DATE: 2018/08/20 KSS	TITLE: <b>APPLICATION SPECIFICATION Squba 1.8 Interconnect System</b>	SHEET No. <b>3 of 18</b>
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# APPLICATION SPECIFICATION

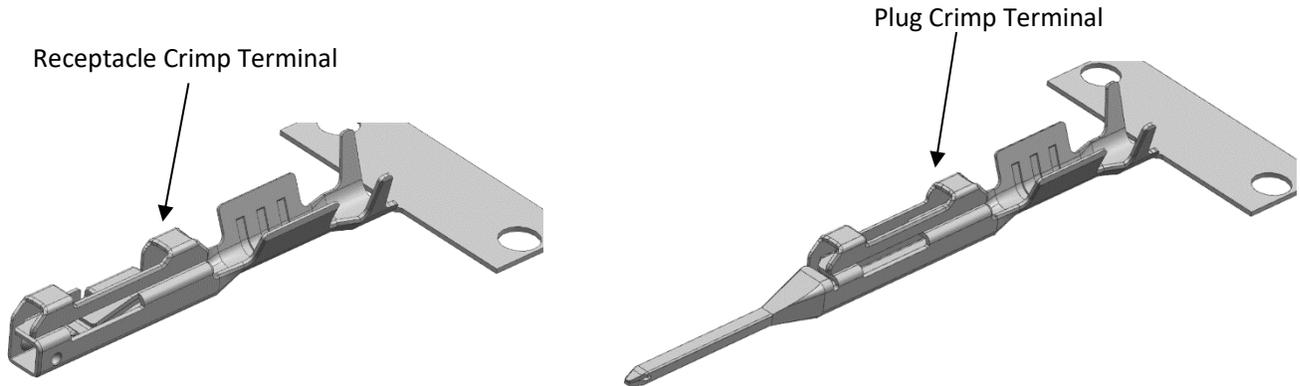


REVISION: <b>A2</b>	ADD MATING LENGTH EC No: 603198 DATE: 2018/08/20 KSS	TITLE: <b>APPLICATION SPECIFICATION Squba 1.8 Interconnect System</b>	SHEET No. <b>4 of 18</b>
DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



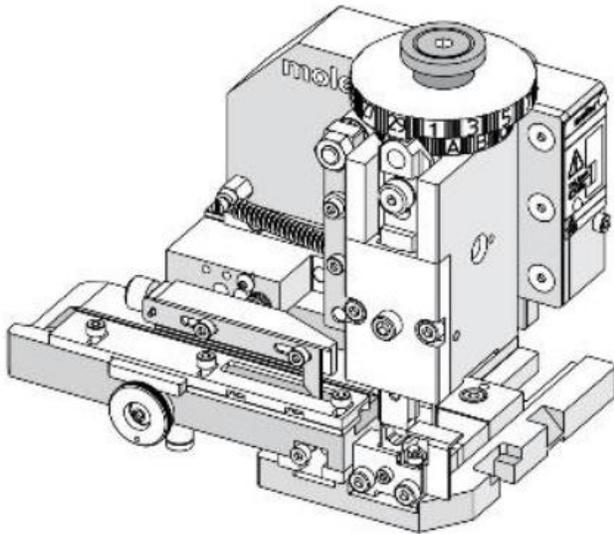
# APPLICATION SPECIFICATION

## 4.2 CRIMP TERMINALS

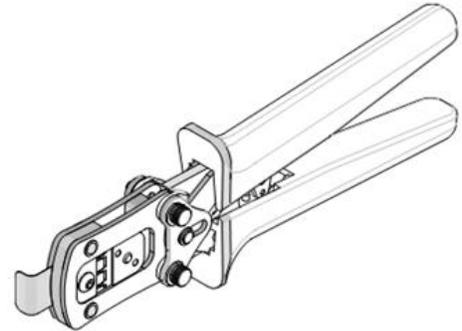


Description	Order Number	Crimp Spec Document Number
Crimp Applicator for Receptacle Terminal	638083700	638083700
Crimp Applicator for Plug Terminal	2130690500	2130690500
Crimp Hand Tool for Plug and Receptacle Terminals	2002180400	2002180400

**Crimp Applicator**



**Hand Tool**



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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



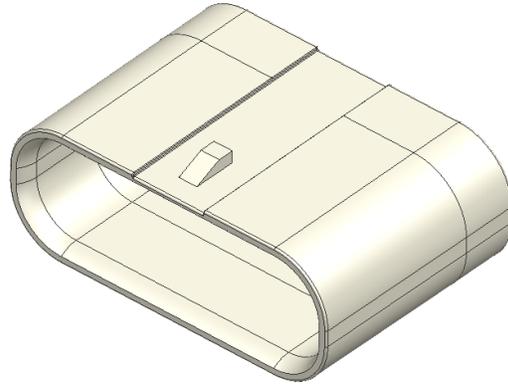
# APPLICATION SPECIFICATION

## 4.3 WEATHER CAPS

Plug Weather Cap



Receptacle weather cap



## 4.4 SEAL PLUGS

Male Seal plug



Female Seal plug



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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



# APPLICATION SPECIFICATION

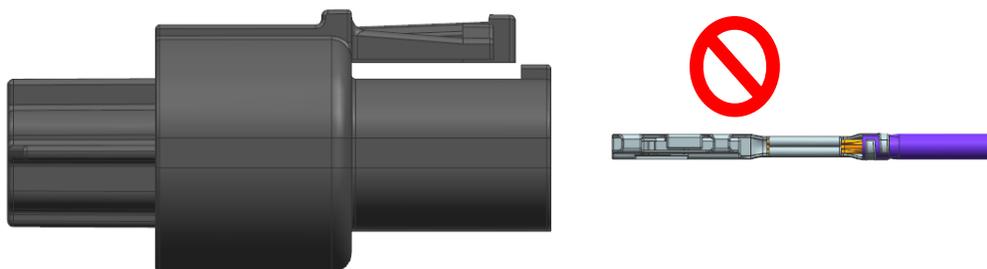
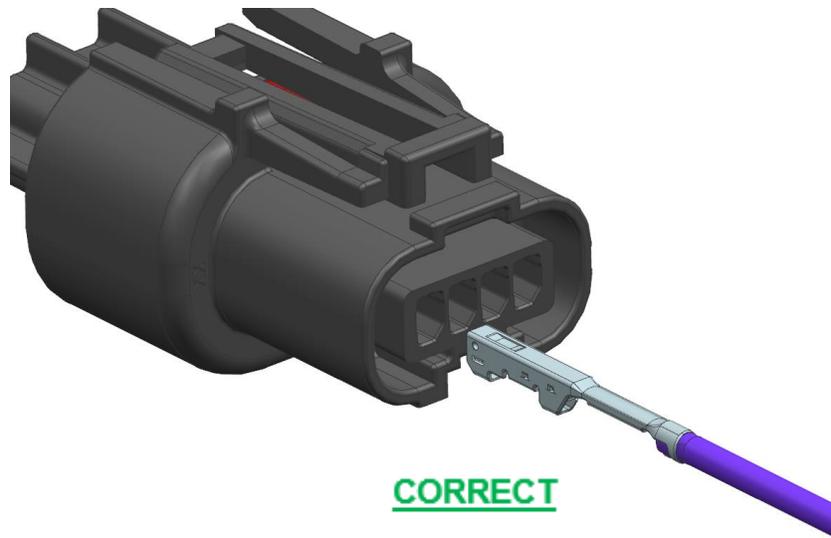
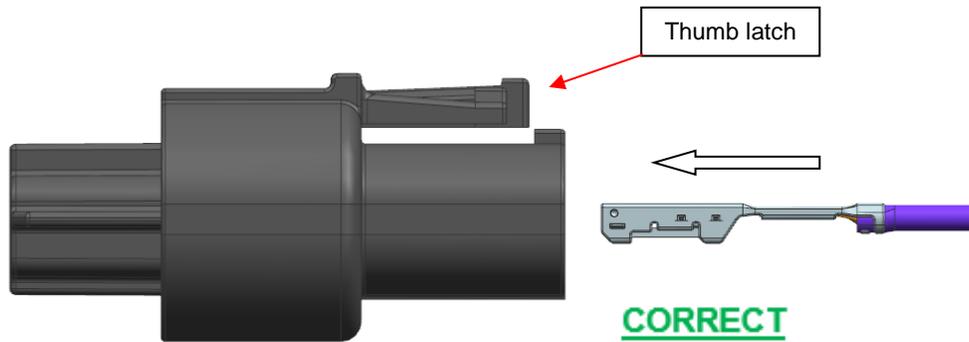
## 5.0 TERMINAL ORIENTATION DURING INSERTION INTO HOUSING

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.

REVISION: <b>A2</b>	ADD MATING LENGTH EC No: <b>603198</b> DATE: <b>2018/08/20 KSS</b>	TITLE: <b>APPLICATION SPECIFICATION Squba 1.8 Interconnect System</b>	SHEET No. <b>7 of 18</b>
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# APPLICATION SPECIFICATION

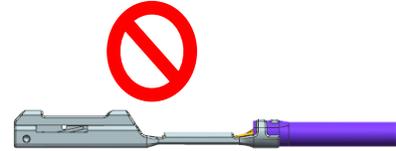
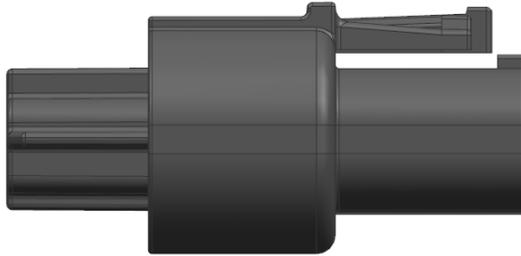


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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>

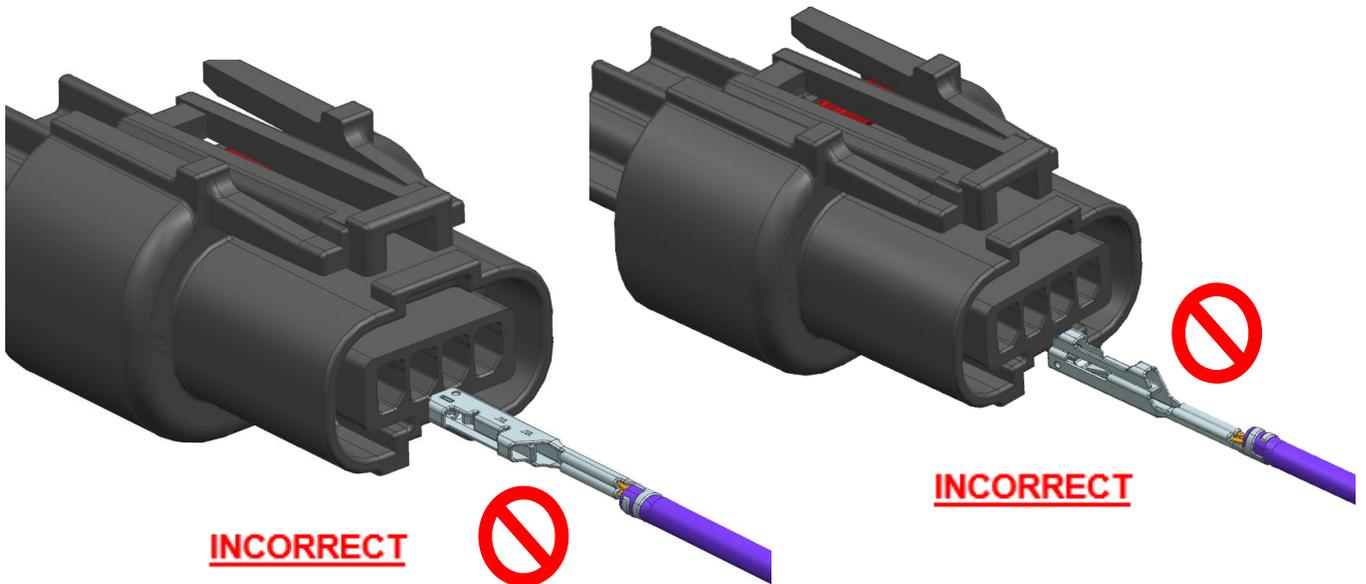


# APPLICATION SPECIFICATION

**INCORRECT**



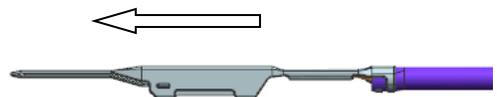
**INCORRECT**



**INCORRECT**

**INCORRECT**

Thumb Latch Hook

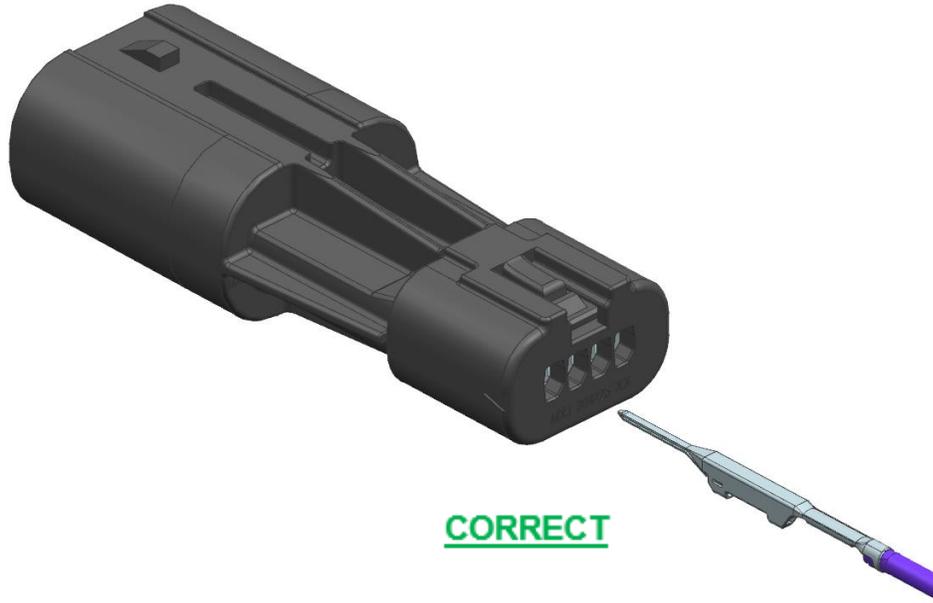


**CORRECT**

REVISION: <b>A2</b>	ADD MATING LENGTH EC No: 603198 DATE: 2018/08/20 KSS	TITLE: <b>APPLICATION SPECIFICATION Squba 1.8 Interconnect System</b>	SHEET No. <b>9 of 18</b>
DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>

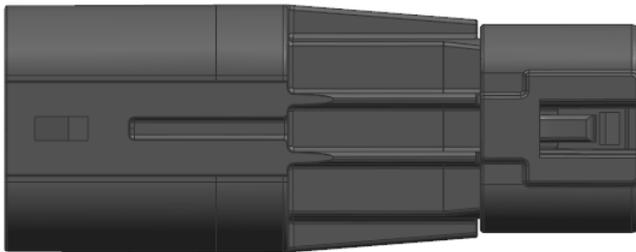


# APPLICATION SPECIFICATION



**CORRECT**

## INSERTION SKEW



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

REVISION: <b>A2</b>	ADD MATING LENGTH EC No: 603198 DATE: 2018/08/20 KSS	TITLE: <b>APPLICATION SPECIFICATION Squba 1.8 Interconnect System</b>	SHEET No. <b>10 of 18</b>
DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



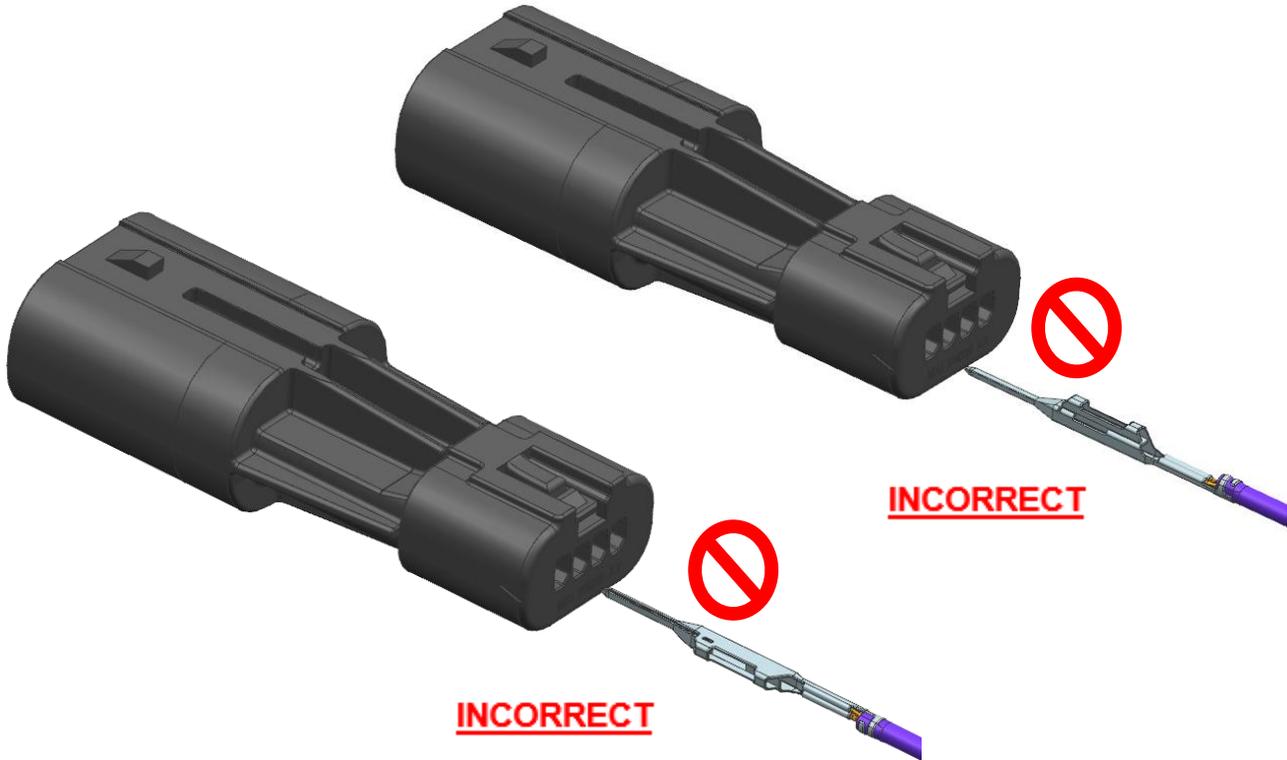
# APPLICATION SPECIFICATION



INCORRECT



INCORRECT



INCORRECT

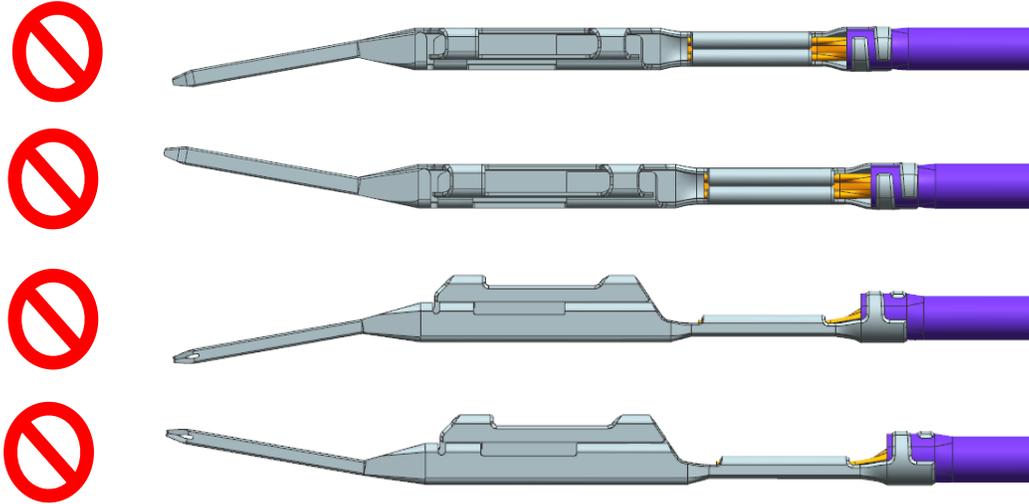
INCORRECT

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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



# APPLICATION SPECIFICATION

**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.

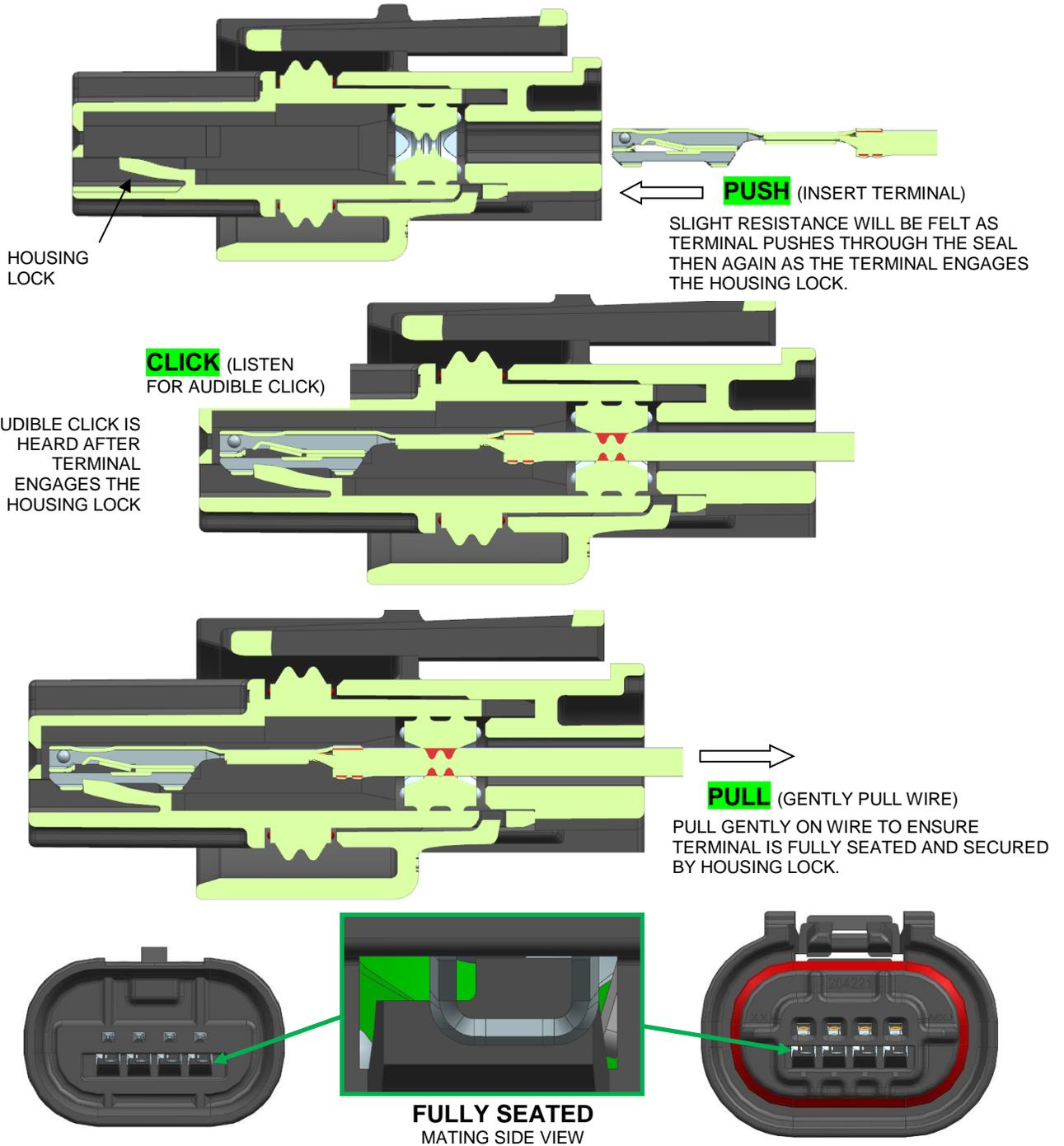
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DOCUMENT NUMBER: <b>2042200000-AS</b>		CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>
		APPROVED BY: <b>RHODGE</b>	



# APPLICATION SPECIFICATION

## PUSH → CLICK → PULL

(APPLIES TO BOTH RECEPTACLE AND PLUG)



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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>

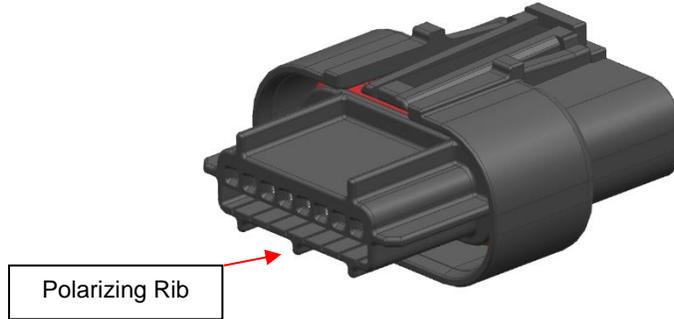


# APPLICATION SPECIFICATION

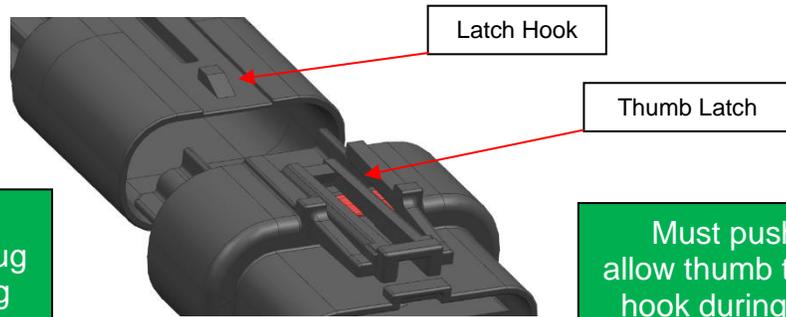
## 7.0 MATING AND UN-MATING

### 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.

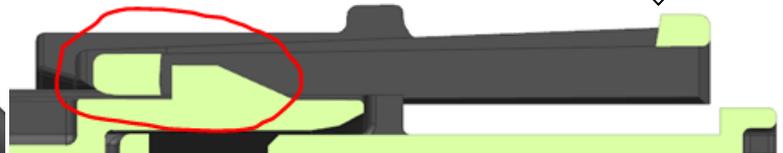
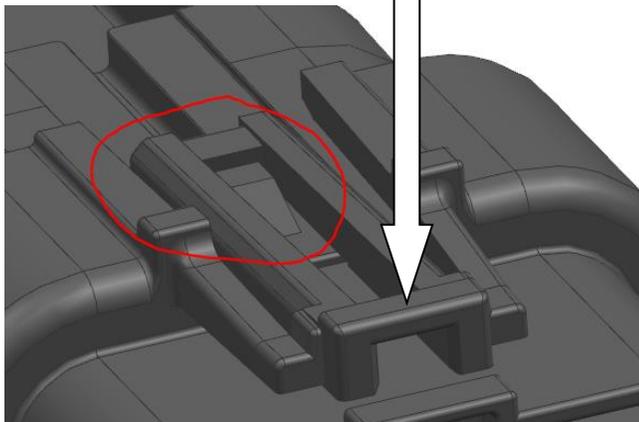


This product also contains a positive locking thumb latch and corresponding latch hook to ensure full mating and prevent accidental un-mating during normal operation. This thumb latch and latch hook features and full mating of the connectors occurs when and after the thumb latch is fully engaged and 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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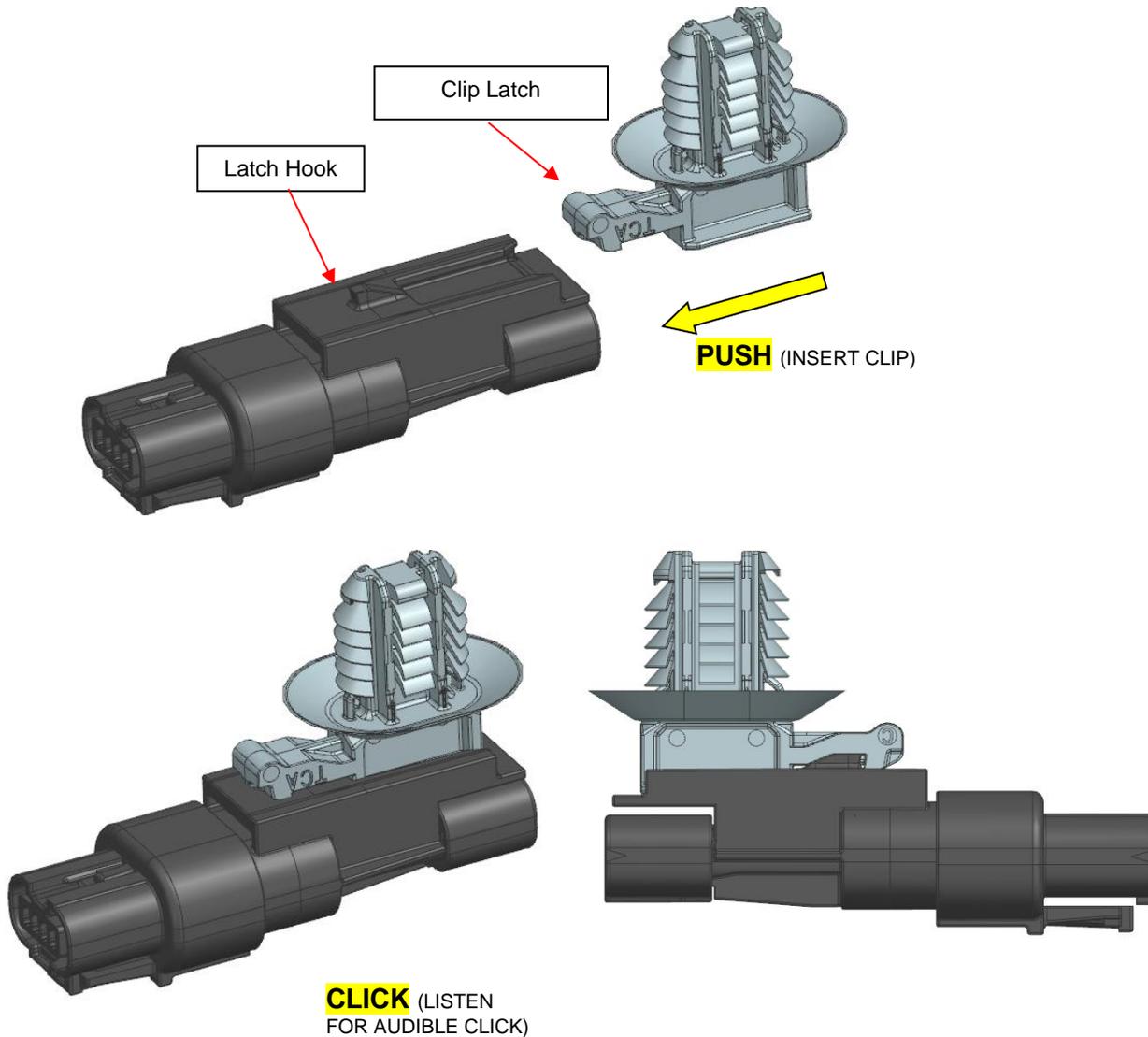
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# APPLICATION SPECIFICATION

## 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**

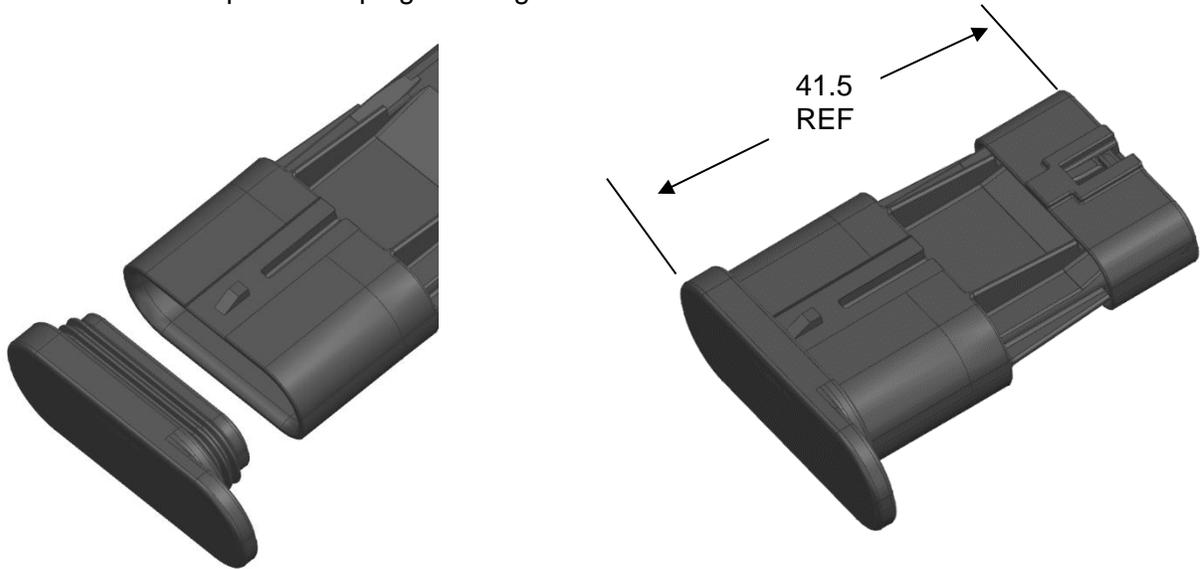
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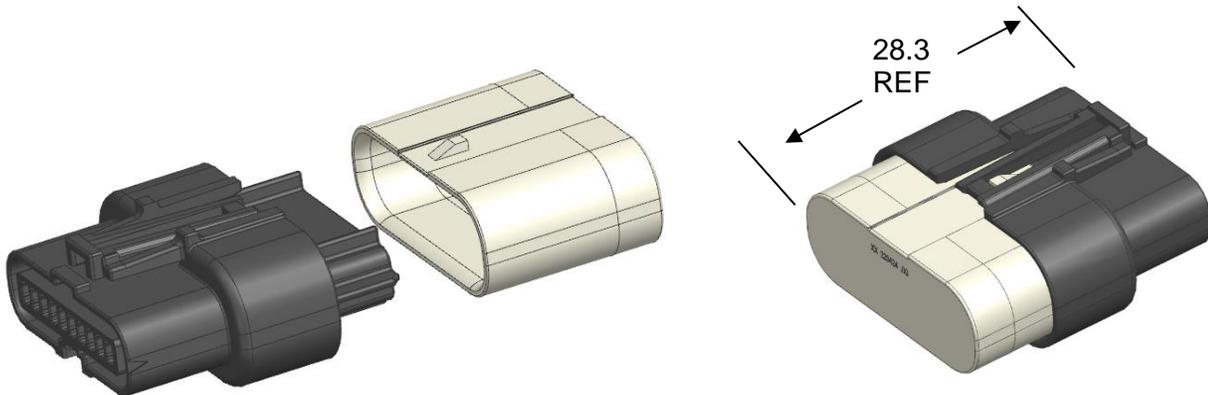
# APPLICATION SPECIFICATION

## 7.3 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.



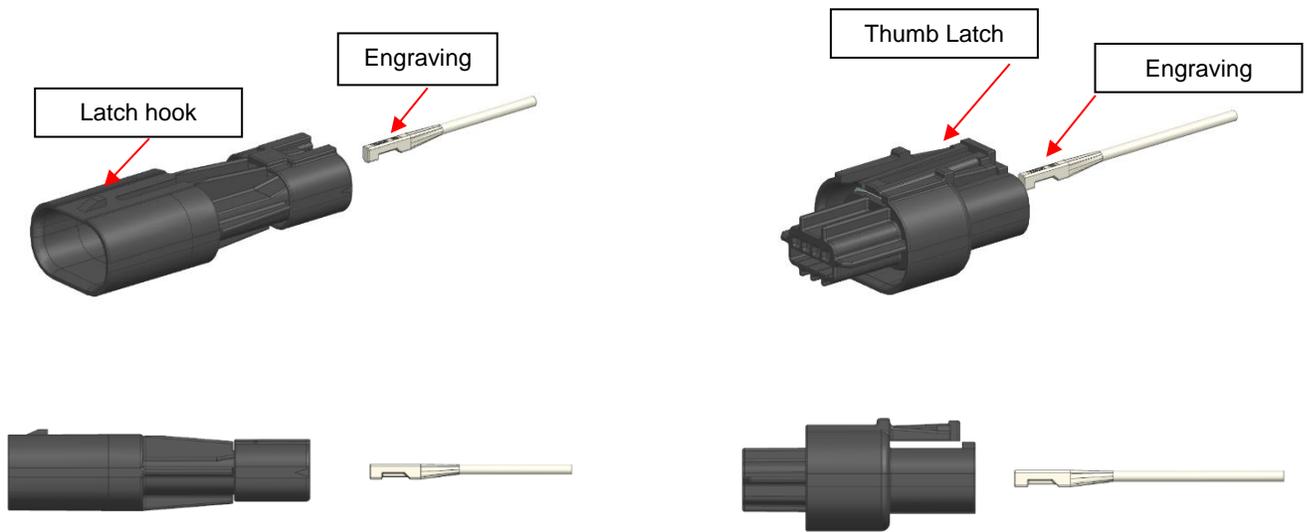
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DOCUMENT NUMBER: <b>2042200000-AS</b>	CREATED BY: <b>TGREGORI</b>	CHECKED BY: <b>RHODGE</b>	APPROVED BY: <b>RHODGE</b>



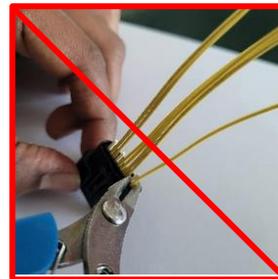
# APPLICATION SPECIFICATION

## 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.



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.

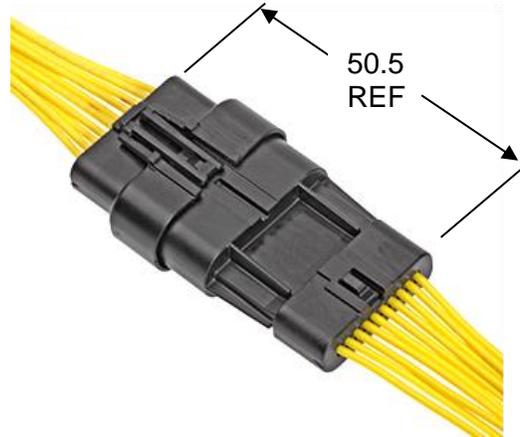


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# APPLICATION SPECIFICATION

## 8.0 MATED LENGTH



## 9.0 PACKAGING

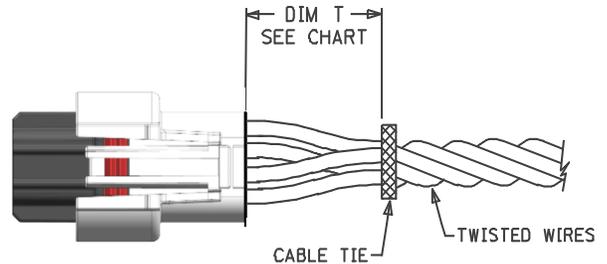
Parts shall be packaged to protect against damage during handling, transit and storage. See packaging specifications listed in section 3.0 (sheet 2).

## 10.0 OTHER INFORMATION

### 10.1 CRIMP APPLICATION TOOLING

### 10.2 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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