APTIV

ASSEMBLY MANUAL

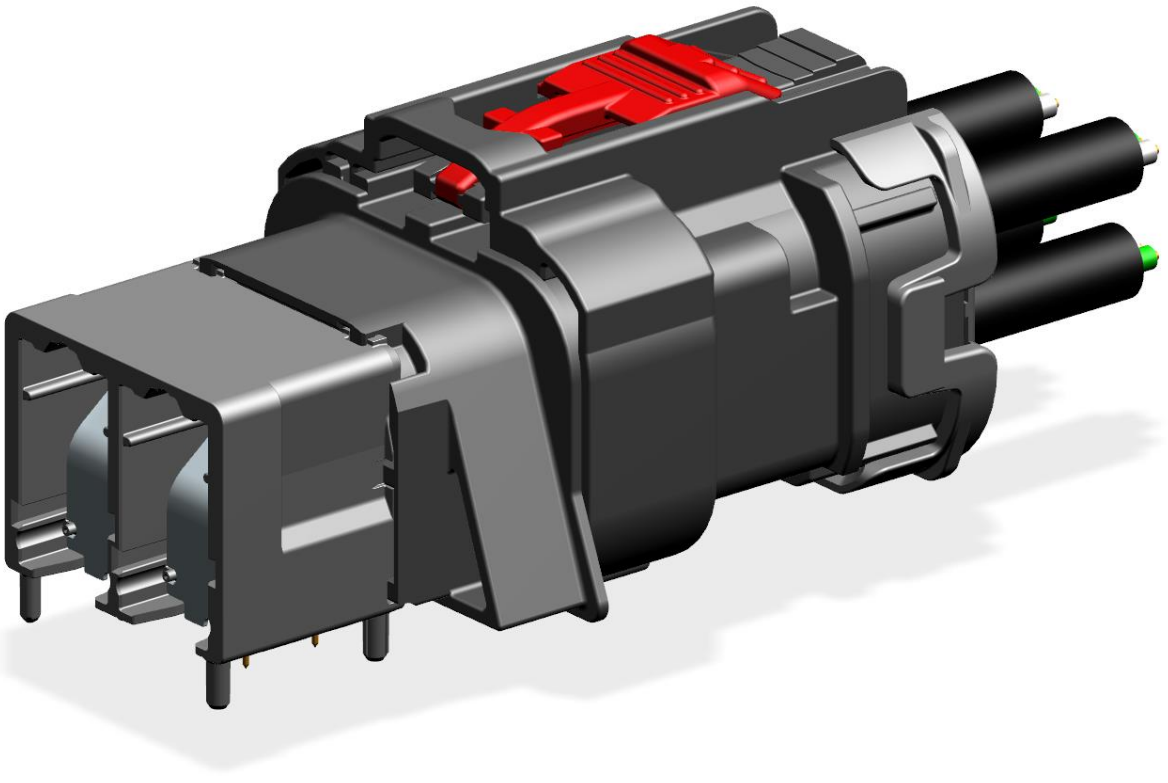
PRE - ASSEMBLY	HARNESS ASSEMBLY	CAR ASSEMBLY

35709472-CUS73-S01 Rev01

4 PORT H-MTD
Female & Male Terminal System
(Sealed)

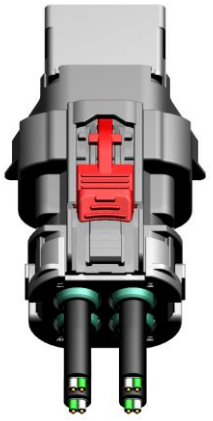
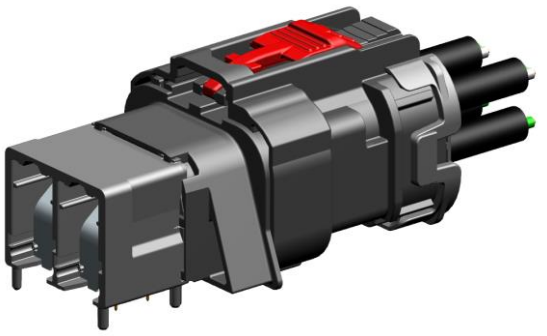
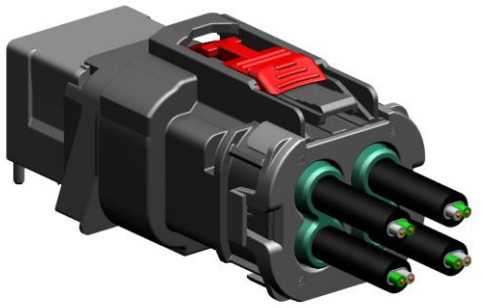
August 2024

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Issued by
STC Shanghai, China
CEC Chennai, India

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COMPONENT INFORMATION

HB VERSION

COMPONENT (ASSEMBLED EXCEPT COVER AND CABLE SEAL)	KEY OPTION	APTIV PN	AMOUNT
4-PORT HMTD FEMALE CONNECTOR WITH CPA	CODE A	35873926	**1**
	CODE B	35873927	1
	CODE C	35873928	1
	CODE D	35873929	1
	CODE E	35873930	1
	CODE F	35873931	1
	CODE Z	35873932	1
4-PORT HMTD FEMALE CONNECTOR WITHOUT CPA	CODE A	35909626	1
	CODE B	35909627	1
	CODEC	35909628	1
	CODE D	35909629	1
	CODE E	35909630	1
	CODE F	35909631	1
	CODE Z	35909632	1
CABLE SEAL	-	35694172	1
COVER	-	35709371	1
H-MTD MODULE	-	-	1

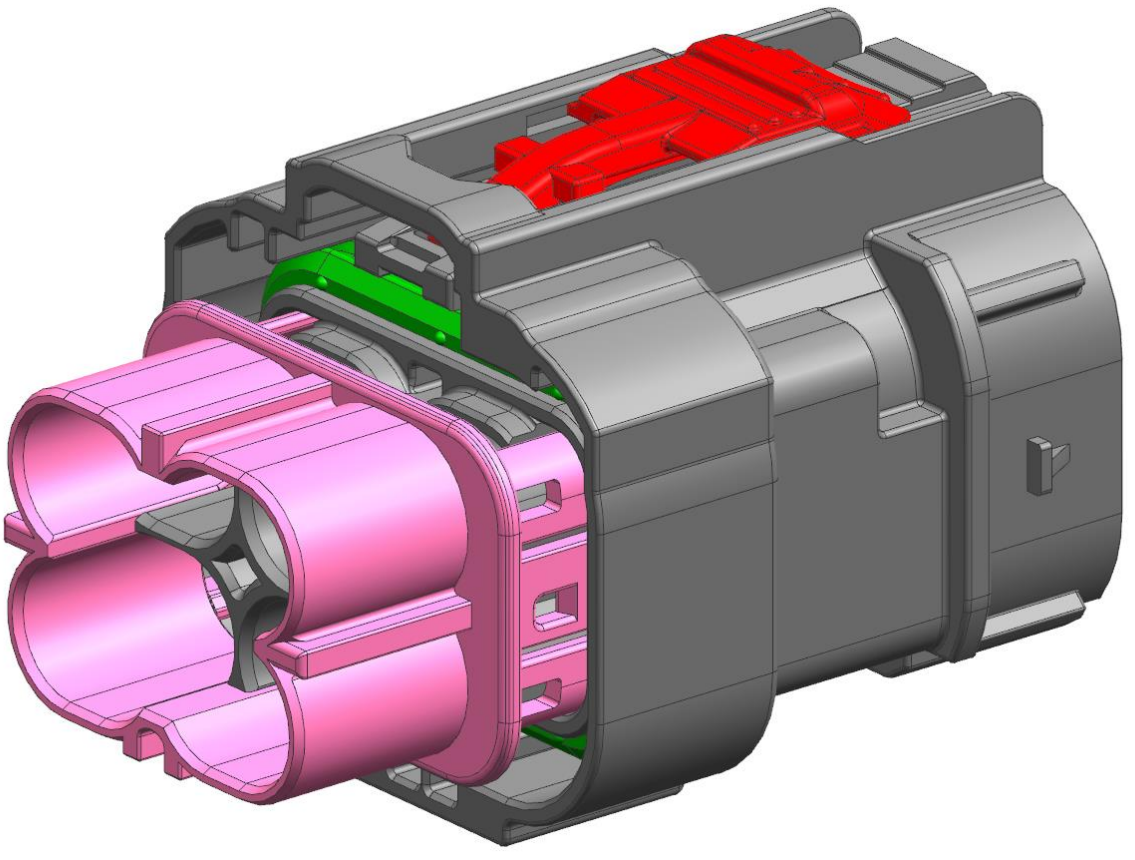
VO VERSION

COMPONENT (ASSEMBLED EXCEPT COVER AND CABLE SEAL)	KEY OPTION	APTIV PN	AMOUNT
4-PORT HMTD FEMALE CONNECTOR WITH CPA	CODE A	35873918	1
	CODE B	35873919	1
	CODEC	35873920	1
	CODE D	35873921	1
	CODE E	35873922	1
	CODE F	35873924	1
	CODE Z	35873925	1
CABLE SEAL	-	35694172	1
COVER	-	35694169	1
H-MTD MODULE	-	-	1

ASSEMBLY OF THE FEMALE CONNECTOR

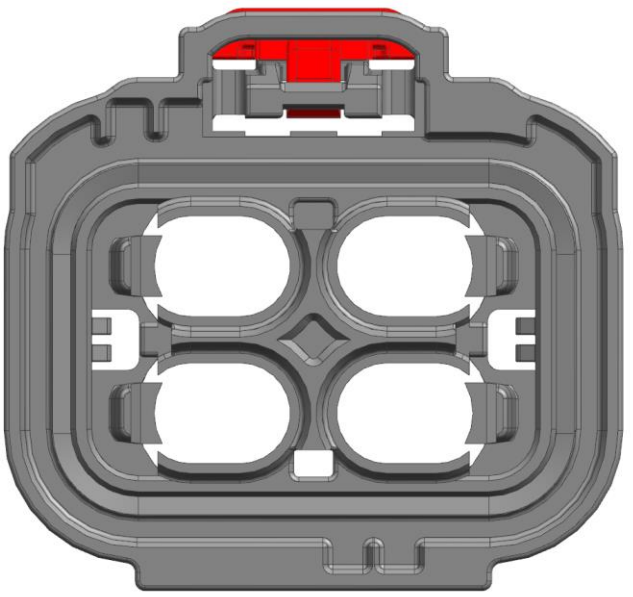
PRE - ASSEMBLY HARNESS ASSEMBLY CAR ASSEMBLY

4 PORT H-MTD Sealed Connector

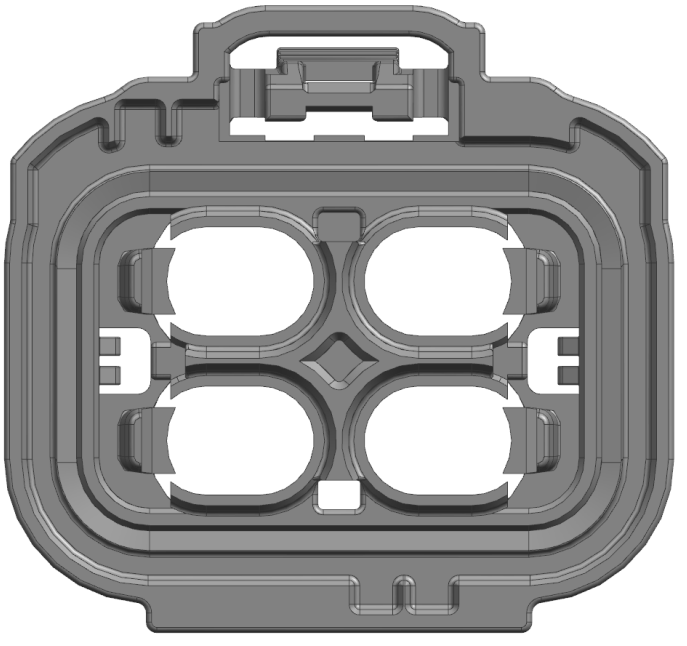


VIEW OF VERSIONS

4 WAY FEMALE CONNECTOR HOUSING



TYPE 101 – CODE A WITH CPA



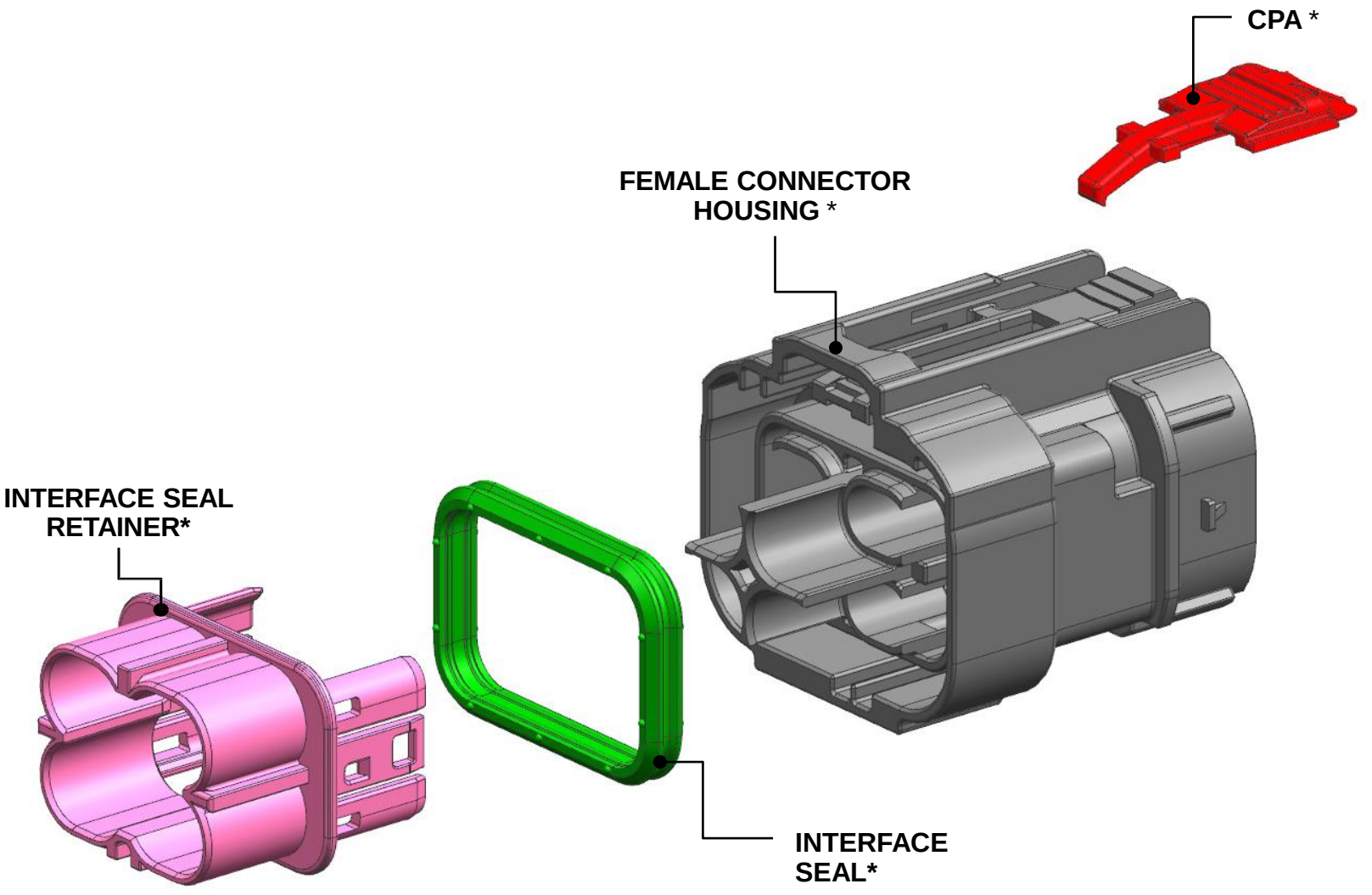
TYPE 201 – CODE A WITHOUT CPA

THESE CONNECTION SYSTEMS HAVE MULTIPLE CONFIGURATIONS, WHICH DIFFER IN THE INDEXING, CONNECTOR COLOR AND USE OF CPA. THE METHOD OF ASSEMBLY IS THE SAME FOR ALL CONNECTORS REGARDLESS OF SAID DIFFERENCES, UNLESS OTHERWISE SPECIFIED.
REFER TO LATEST ASSEMBLY TAXI DRAWINGS FOR DETAILS AND AVAILABLE OPTIONS.

LIST OF COMPONENTS & EXPLODED VIEW

QUANTITY	COMPONENTS
1	FEMALE CONNECTOR HOUSING*****
1	CPA (OPTIONAL COMPONENT) *
1	INTERFACE SEAL RETAINER*
1	INTERFACE SEAL*

ADDITIONAL INFORMATION AND REFERENCE TO ANOTHER DRAWINGS, DOCUMENTS, ETC. FOR EXAMPLE: REFER TO LATEST DRAWINGS FOR PART NUMBERS AND DETAILS



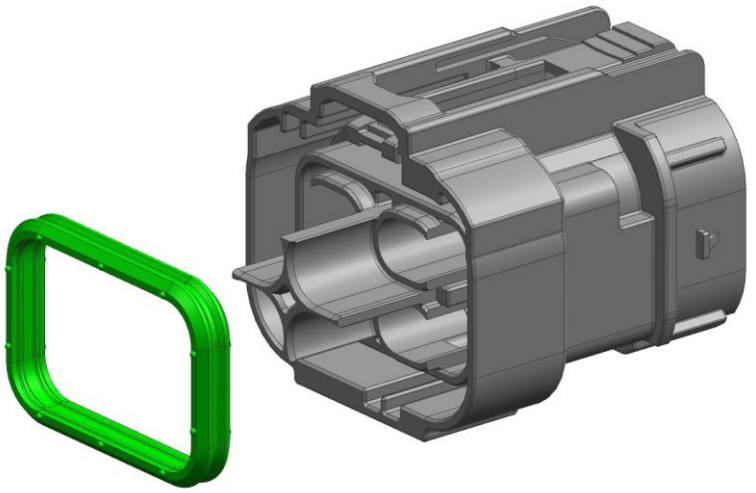
* THE PRODUCT AND ITS SINGLE COMPONENTS MUST NOT BE DAMAGED DURING THE ASSEMBLY PROCESS. CHEMICAL OR MECHANICAL DAMAGE IS NOT ALLOWED. THE PRODUCT SHALL NOT BE EXPOSED TO ENVIRONMENTAL POLLUTION DURING STORAGE OR ASSEMBLY. THE COMPONENTS SHOULD BE USED ON A FIFO (FIRST IN FIRST OUT) BASIS. STORAGE ALLOWED ONLY IN ORIGINAL UNOPENED SHIPPING CONTAINERS. SHELF LIFE OF 1 YEAR MAXIMUM FROM DATE OF ARRIVAL.
PERMISSIBLE STORAGE TEMPERATURE: MIN. 10°C, MAX. 45°C & <75% RH.

Pictures used in this Assembly Manual and original parts may differ in some details. These differences have no influence on the assembly process.

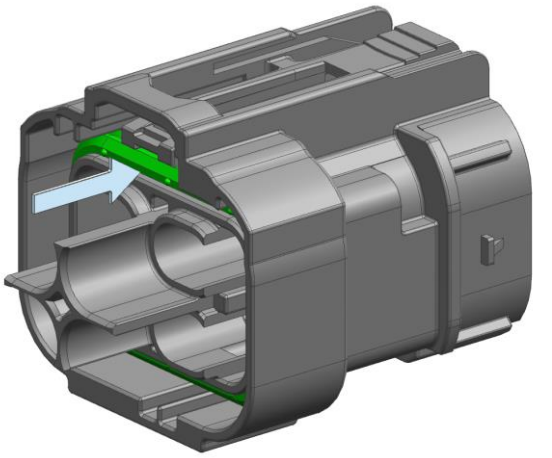
Step-1 Install Interface Seal

PRE-ASSEMBLY

1 **IDENTIFY THE CORRECT ORIENTATION OF THE INTERFACE SEAL AND ALIGN IT WITH THE CONNECTOR HOUSING**

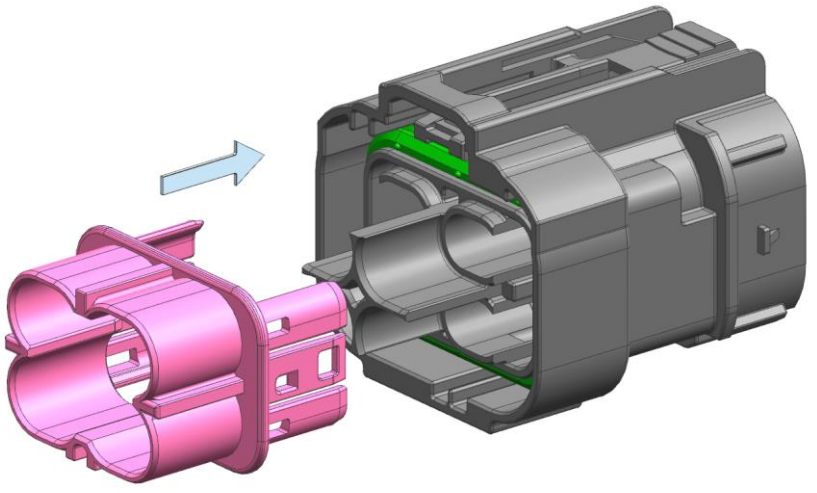


2 **PUSH THE SEAL ON TO THE CONNECTOR HOUSING**



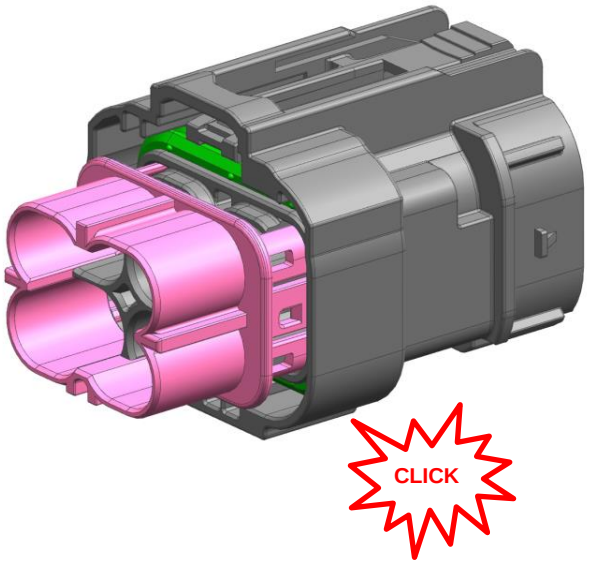
STEP 2a – Install Interface Seal Retainer to Pre-Stage Position

1 **IDENTIFY THE CORRECT ORIENTATION OF THE INTERFACE SEAL RETAINER AND ALIGN IT WITH THE CONNECTOR HOUSING**



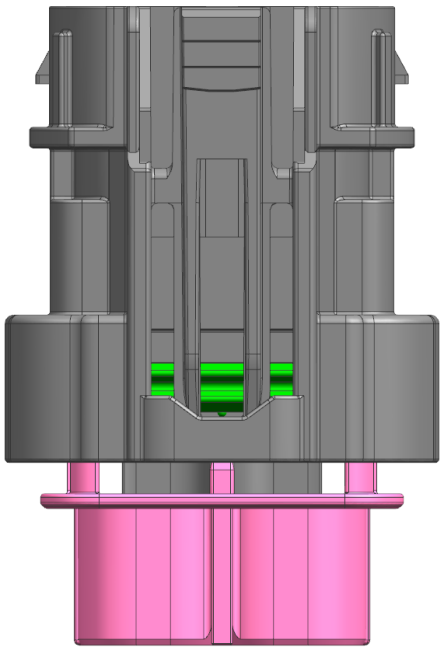
2 **PUSH THE INTERFACE SEAL RETAINER ON TO THE CONNECTOR HOUSING**

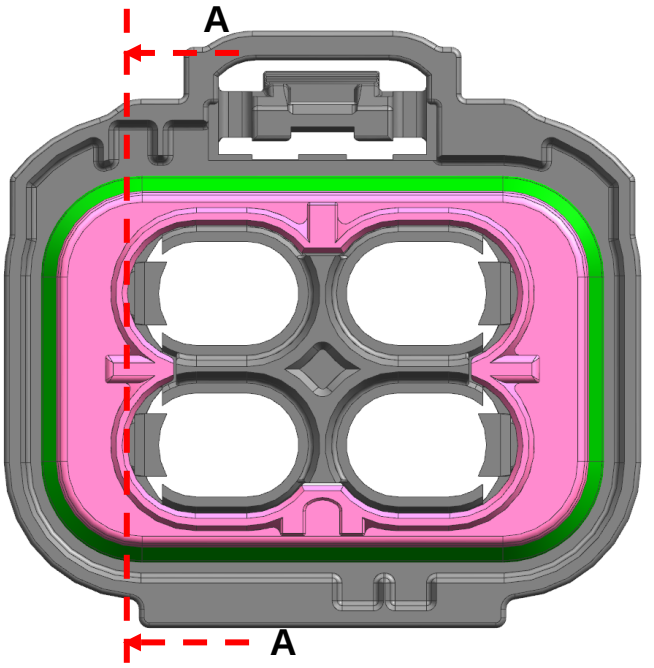
VERIFY AUDIBLE CLICK



STEP 2b – Install Interface Seal Retainer to Pre-Stage Position

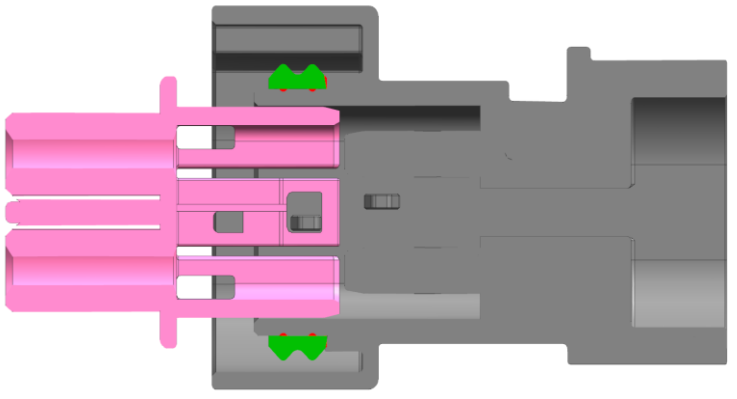
VERIFY THE INTERFACE SEAL RETAINER IS IN PRE-STAGE AND EVENLY LOCKED



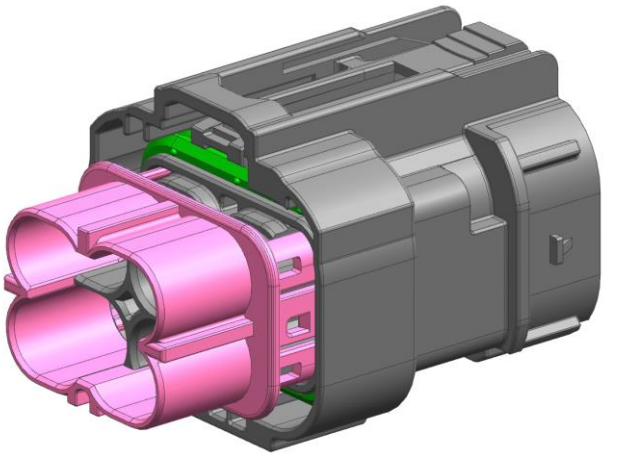


STEP 2c – Install Interface Seal Retainer to Pre-Stage Position

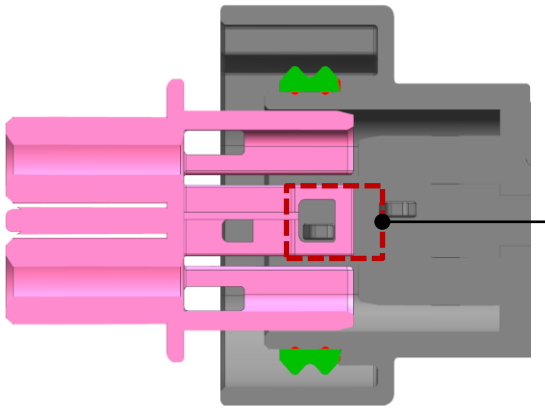
THE INTERFACE SEAL RETAINER MUST BE PARALLEL WITH THE CONNECTOR AND LOCKED IN THE FIRST SET OF SLOTS



INTERFACE SEAL RETAINER IS NOW IN PRE-STAGE POSITION



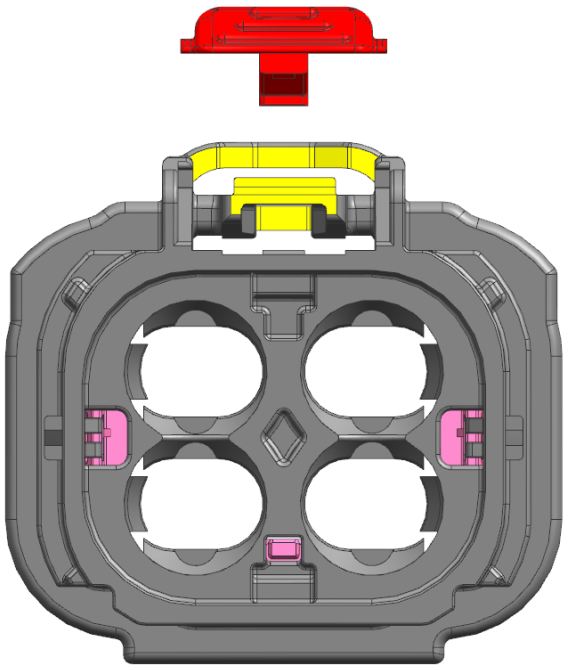
SECTION A-A



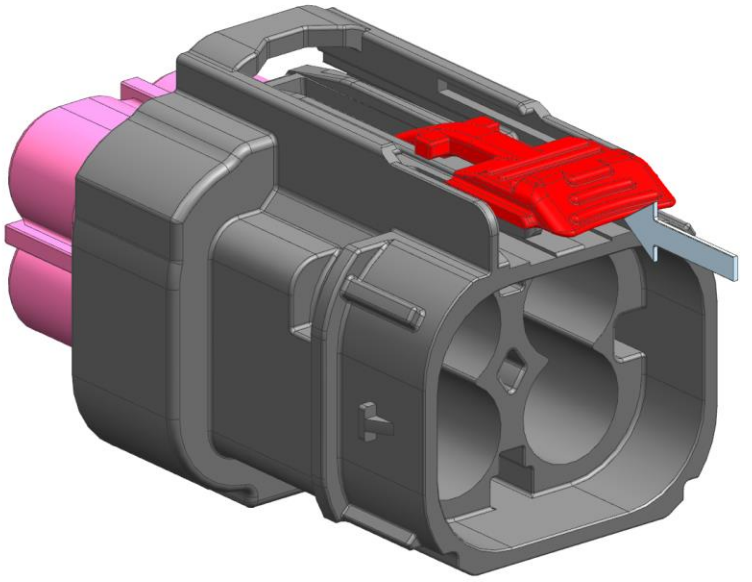
INTERFACE SEAL RETAINER LOCKS

STEP 3 – Insert CPA to Pre-Stage Position (Optional Component)

IDENTIFY SLOTS IN CONNECTOR HOUSING AND ORIENT THE CPA IN THE PROPER DIRECTION

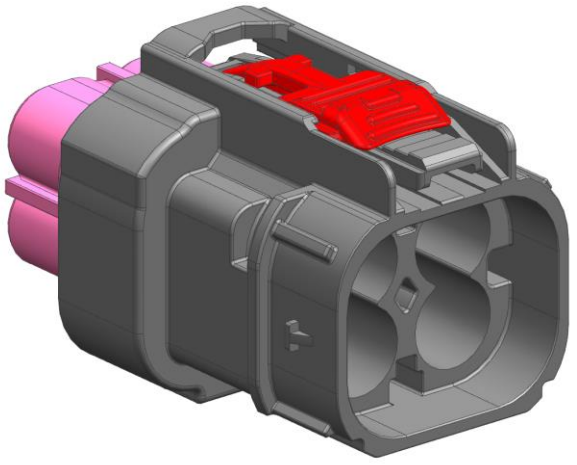


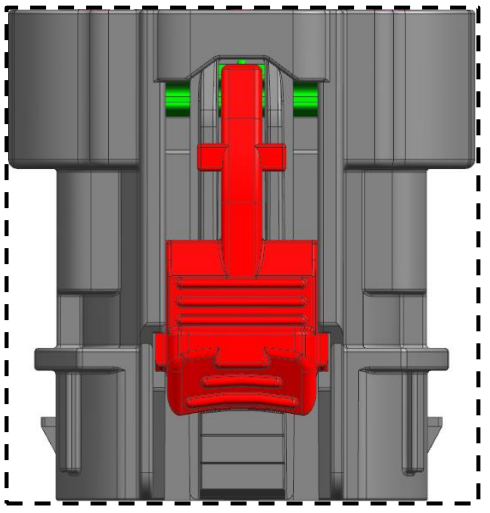
INSERT CPA ONTO CONNECTOR HOUSING BY SLIDING THE CPA RIBS INTO THE CONNECTOR SLOTS

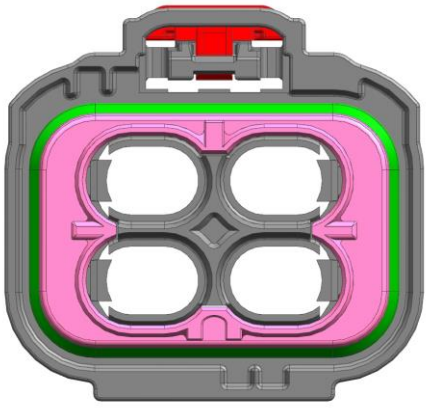


FEMALE CONNECTOR PRE-ASSEMBLY – COMPLETED

VERIFY AUDIBLE CLICK





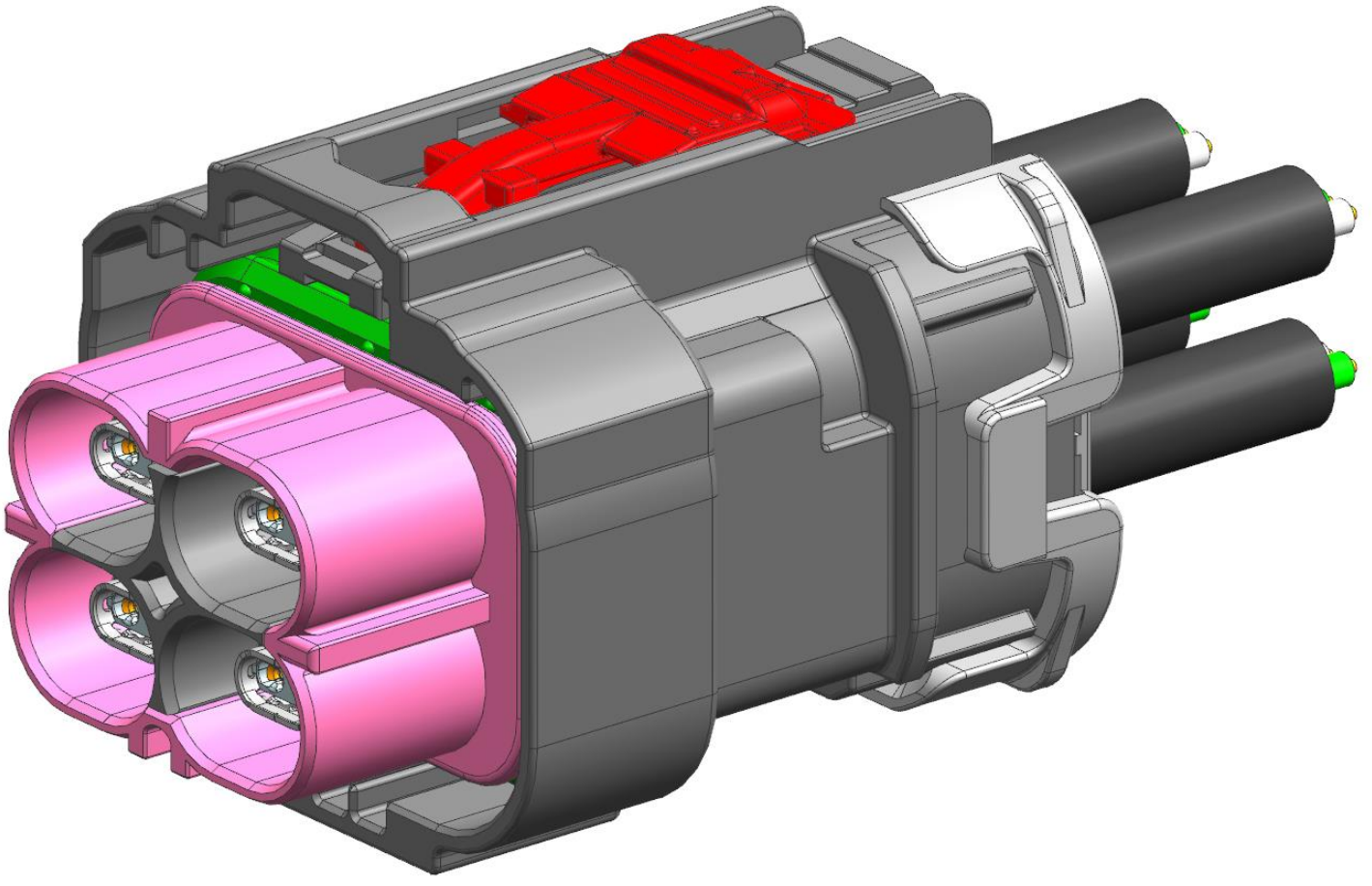


CPA IS NOW IN PRE-STAGE POSITION

ASSEMBLY OF THE FEMALE HARNESS ASSEMBLY

PRE - ASSEMBLY | **HARNESS ASSEMBLY** | CAR ASSEMBLY

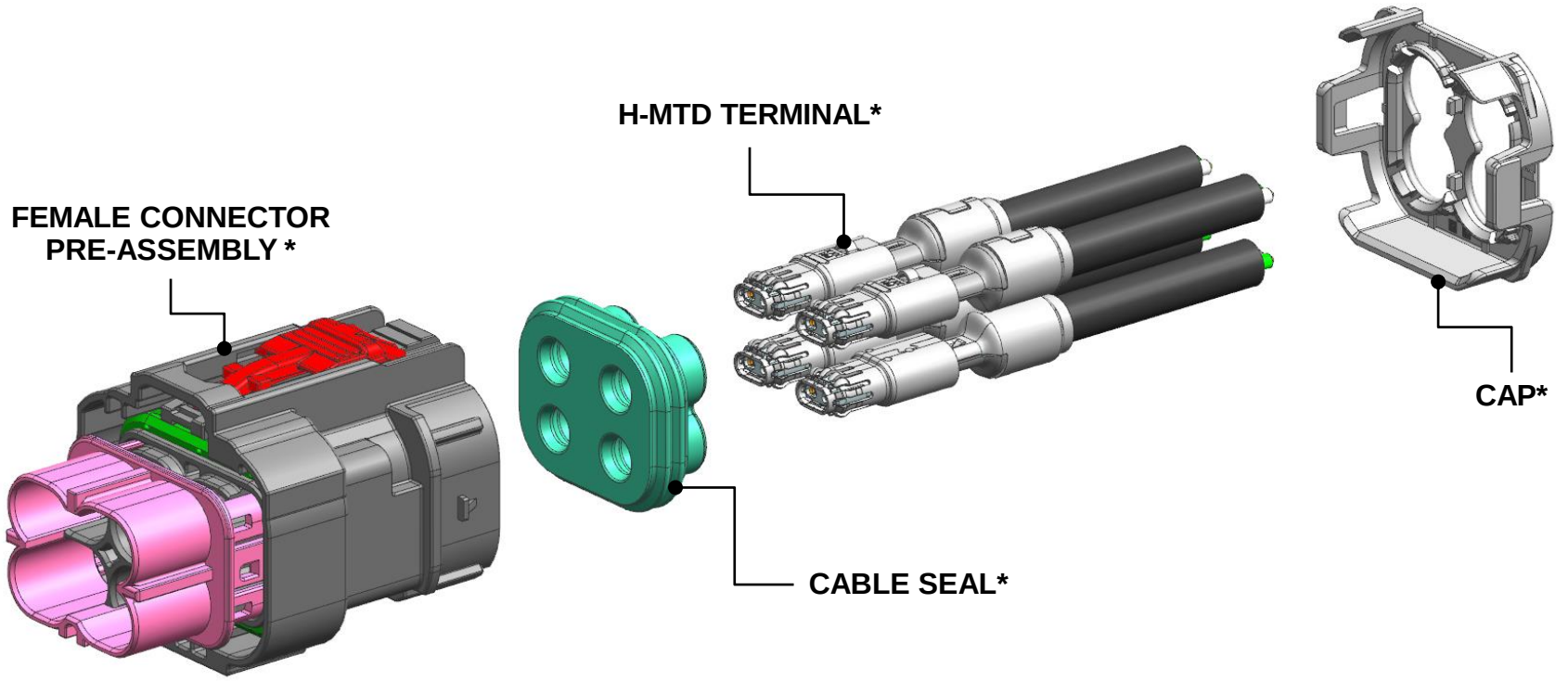
4 PORT H-MTD Sealed Connector



LIST OF COMPONENTS & EXPLODED VIEW

QUANTITY	COMPONENTS
1	FEMALE CONNECTOR PRE-ASSEMBLY *
4	H-MTD TERMINAL*
1	CABLE SEAL*
1	CAP*

ADDITIONAL INFORMATION AND REFERENCE TO ANOTHER DRAWINGS, DOCUMENTS, ETC. FOR EXAMPLE: REFER TO LATEST DRAWINGS FOR PART NUMBERS AND DETAILS

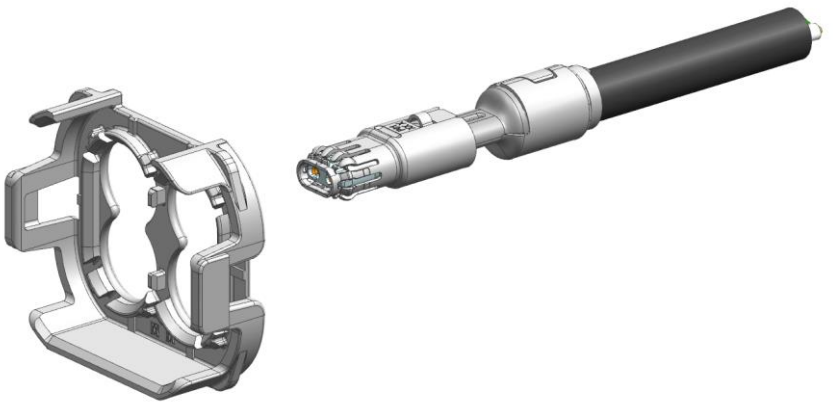


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PERMISSIBLE STORAGE TEMPERATURE: MIN. 10°C, MAX. 45°C & <75% RH.

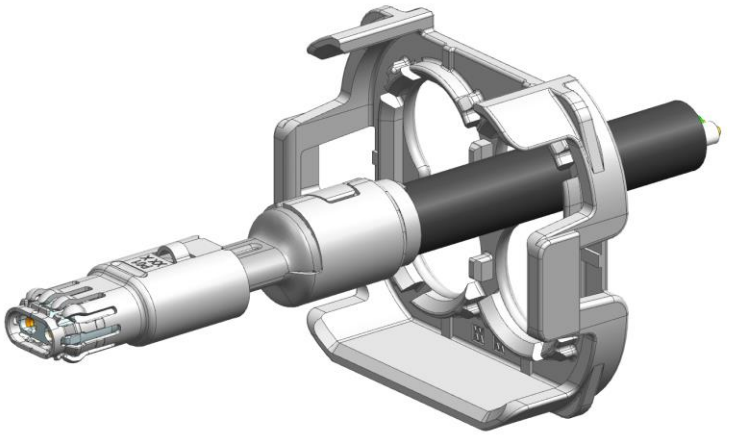
Pictures used in this Assembly Manual and original parts may differ in some details. These differences have no influence on the assembly process.

Step 1 – Mount Cap over Terminals

1 **IDENTIFY THE CORRECT ORIENTATION OF THE CAP AND ALIGN IT WITH THE TERMINAL**

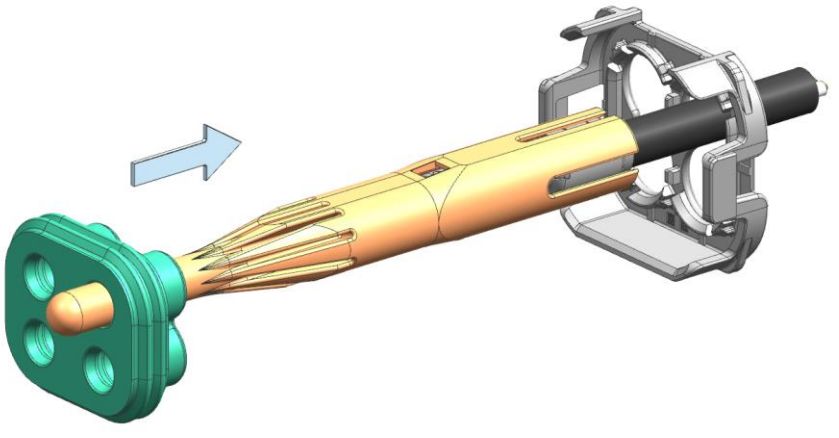


2 **PUSH THE CAP OVER THE TERMINAL**



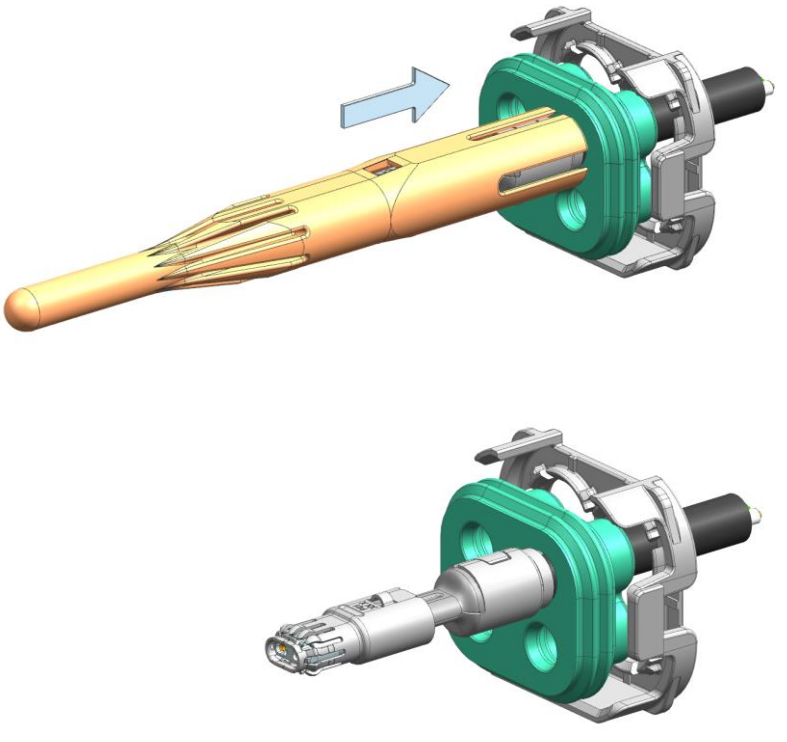
STEP 2 – Insert Cable Seal over Terminals

1 **IDENTIFY THE CORRECT ORIENTATION OF THE CABLE SEAL AND ALIGN IT WITH THE TERMINAL**



TERMINAL COVERED BY SEAL INSERTION TOOL

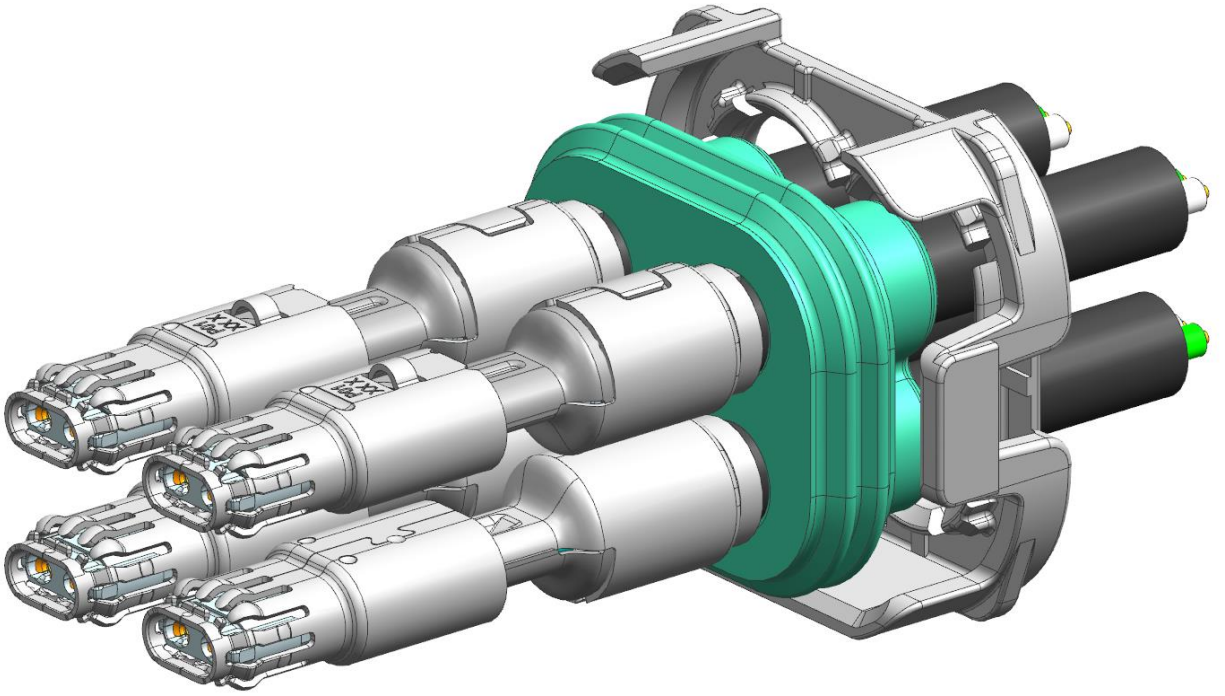
2 **PUSH THE SEAL OVER THE TERMINAL WITH THE ASSISTANCE OF SEAL INSERTION TOOL**



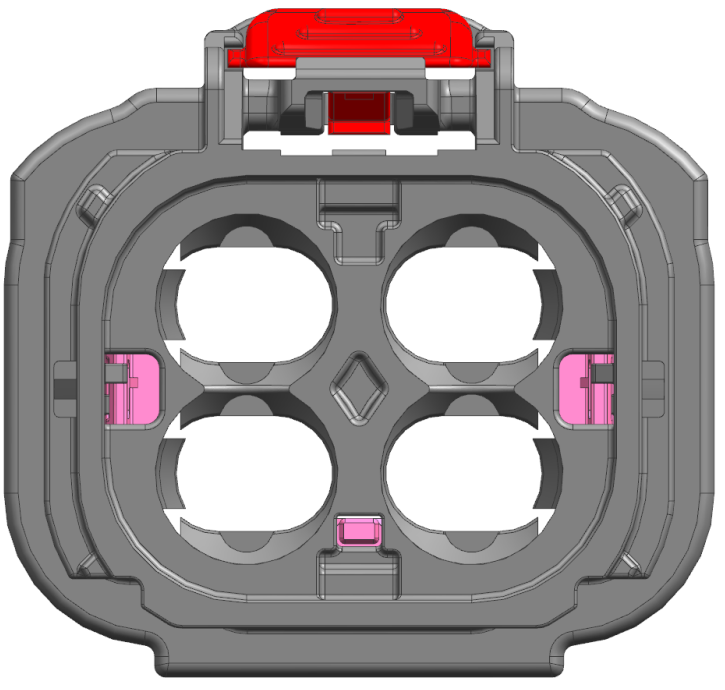
STEP 2b – Insert Cable Seal over Terminals

3

REPEAT THE SAME PROCEDURE TO INSTALL ALL THE FOUR TERMINLS



STEP 3a – Identify Cavities & Align Female H-MTD Terminals



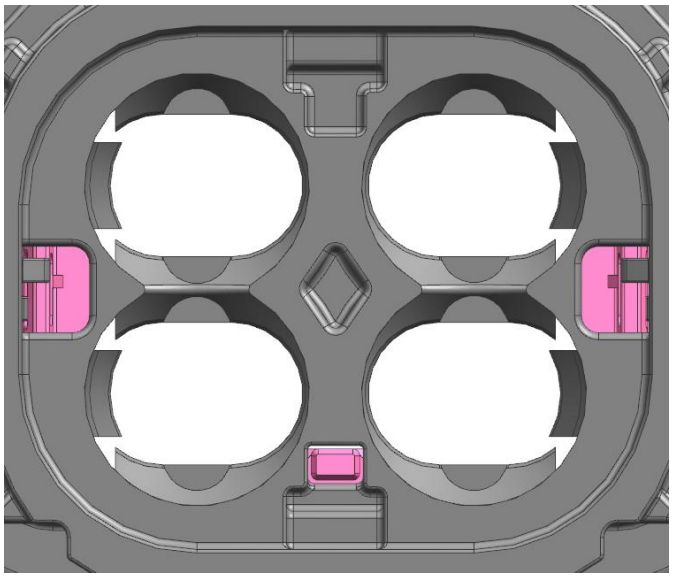


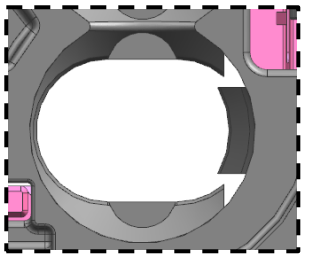
BACK VIEW

CAVITY ID NUMBERS LOCATED AT THE BACK OF THE CAP

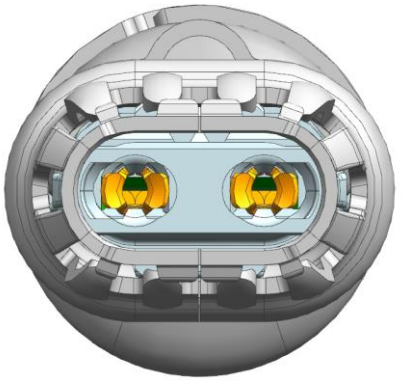
STEP 3b – Identify Cavities & Align Female H-MTD Terminals

INSERT FEMALE TERMINALS INTO RECEPTACLE HOUSING ACCORDING TO INSERTION PLAN





BACK VIEW

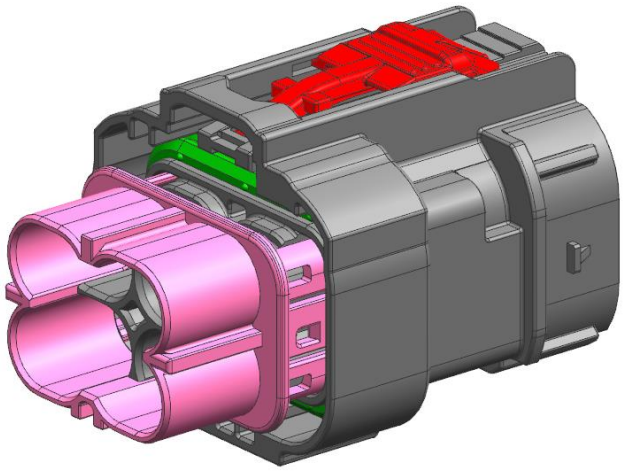


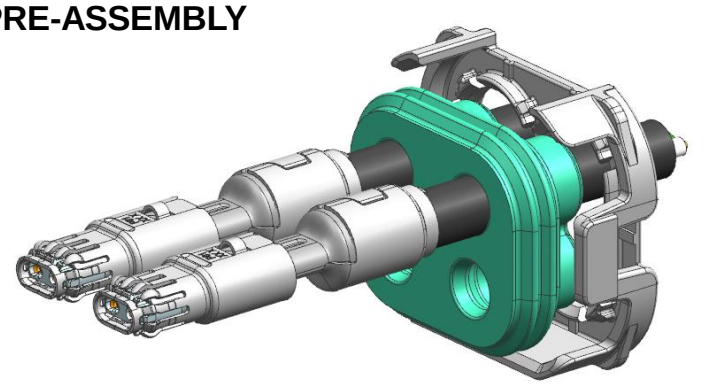
FRONT VIEW

STEP 4a – Insert Female H-MTD Terminals

1

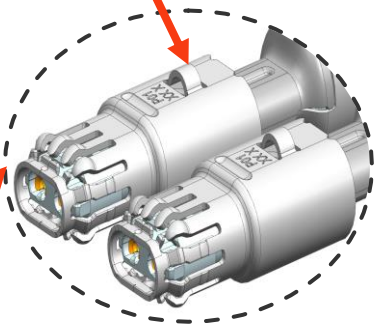
IDENTIFY THE CORRECT ORIENTATION OF THE TERMINAL ASSEMBLED WITH CAP & CABLE SEAL AND ALIGN IT WITH THE CONNECTOR PRE-ASSEMBLY





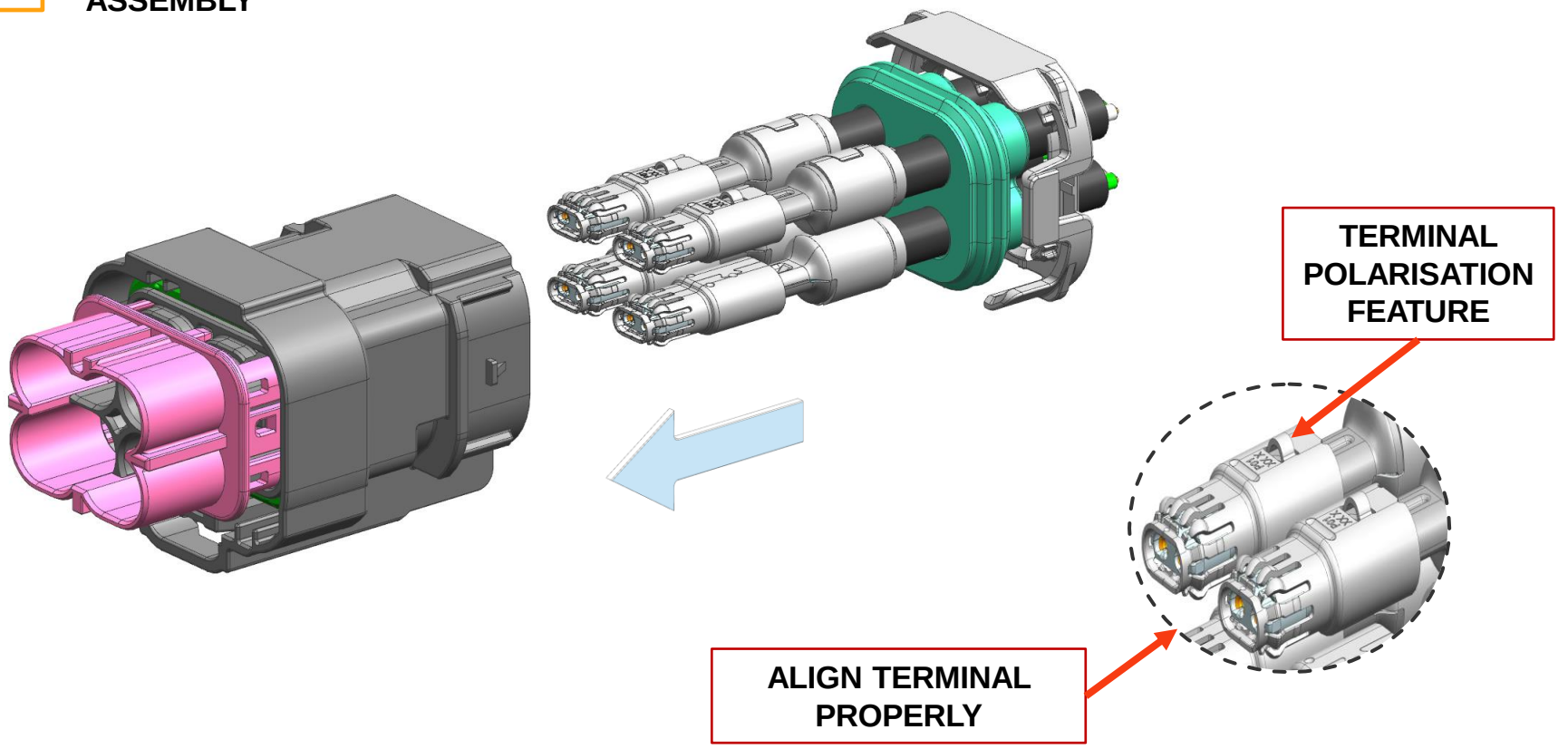
TERMINAL POLARISATION FEATURE

ALIGN TERMINAL PROPERLY

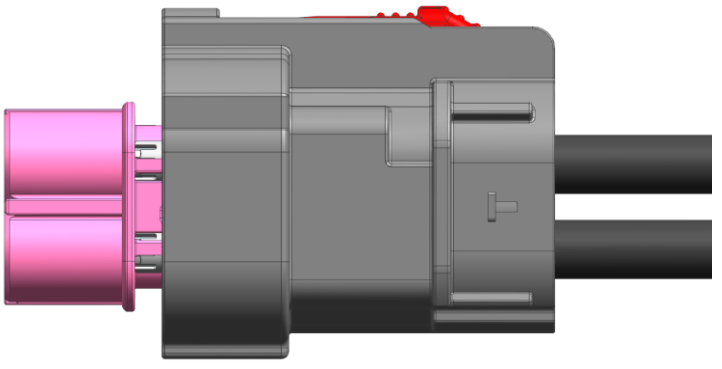


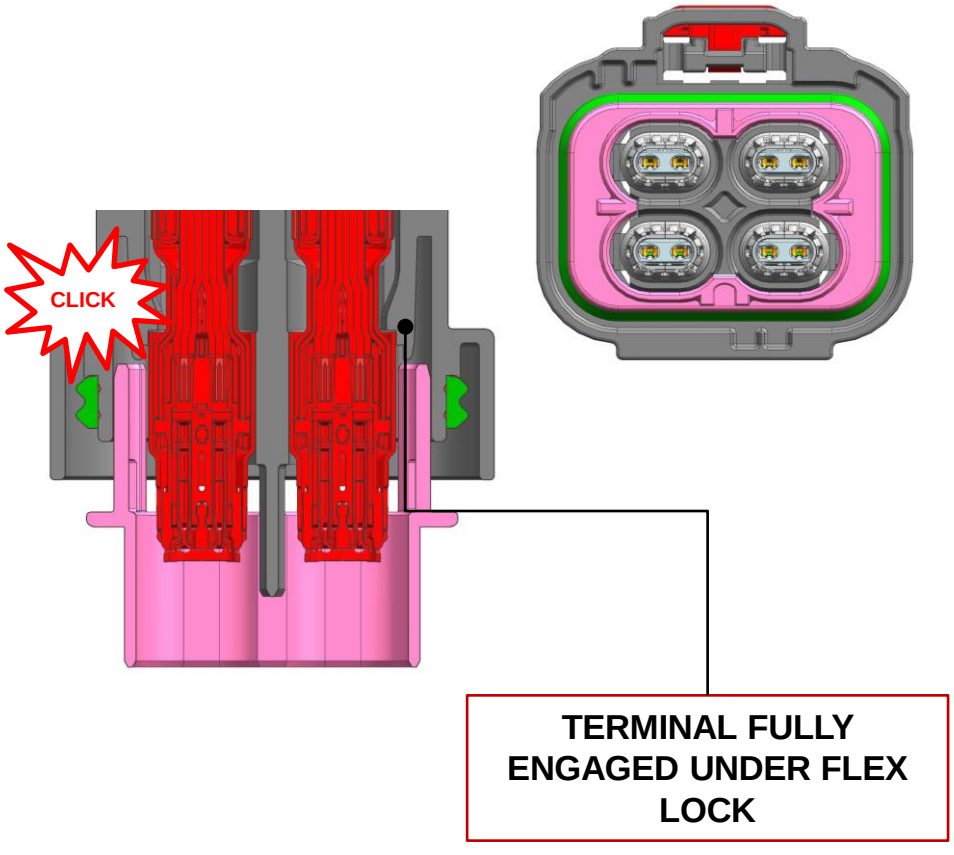
STEP 4b – Insert Female H-MTD Terminals

2 **IDENTIFY THE CORRECT ORIENTATION OF THE TERMINAL ASSEMBLED WITH CAP & CABLE SEAL AND ALIGN IT WITH THE CONNECTOR PRE-ASSEMBLY**



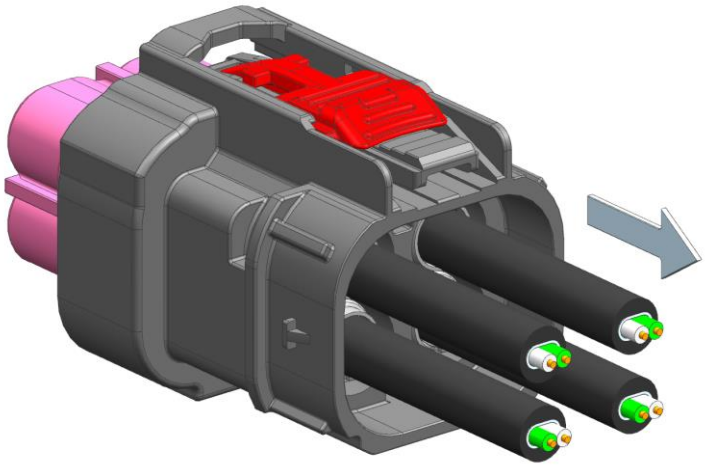
3 **PUSH THE TERMINALS STRAIGHT INTO THE CAVITY**



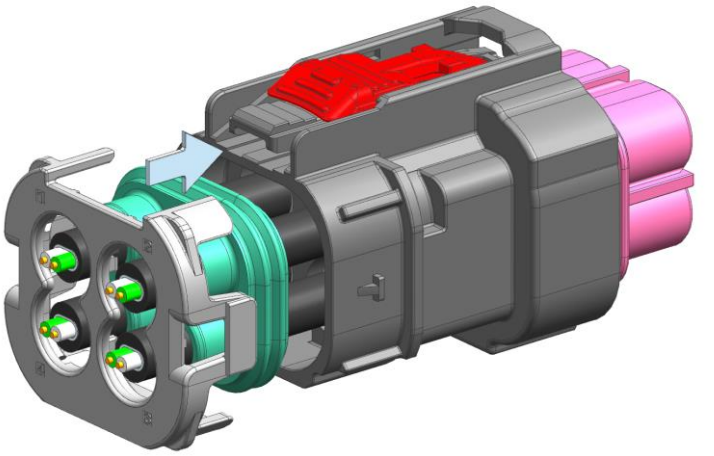


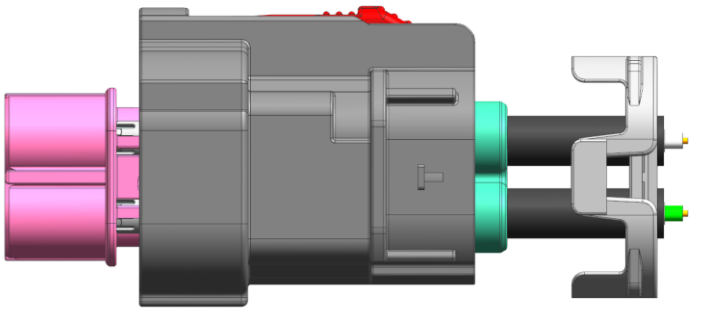
STEP 4c – Insert Female H-MTD Terminals

4 **GENTLY PULL THE CABLE TO VERIFY THE LOCK SYSTEM**



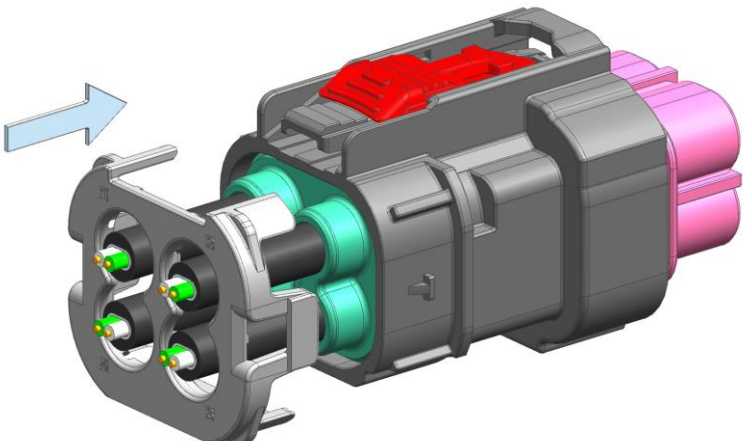
5 **PUSH THE CABLE SEAL STRAIGHT INTO THE CONNECTOR HOUSING**

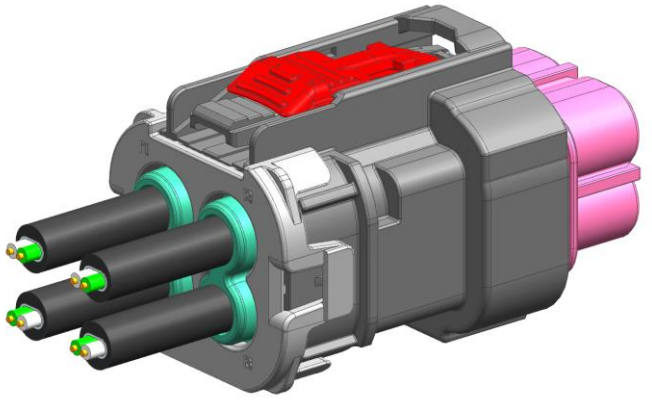




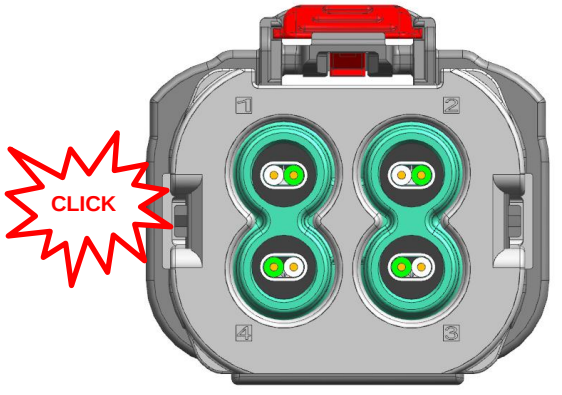
STEP 5 – Lock Cap to Connector Housing

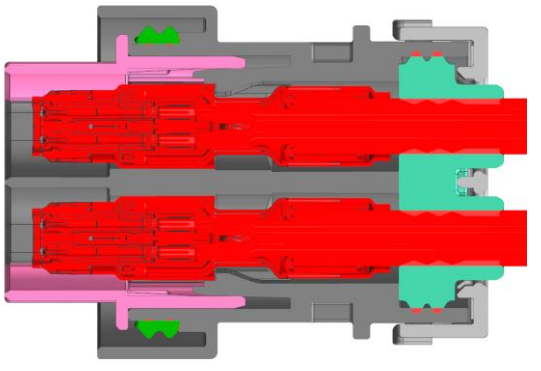
6 **PUSH THE CAP STRAIGHT INTO THE CONNECTOR HOUSING NEXT TO CABLE SEAL**





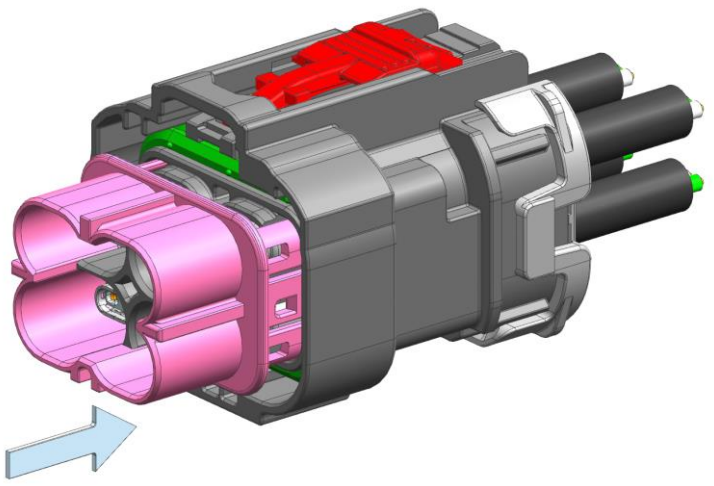
VERIFY AUDIBLE CLICK



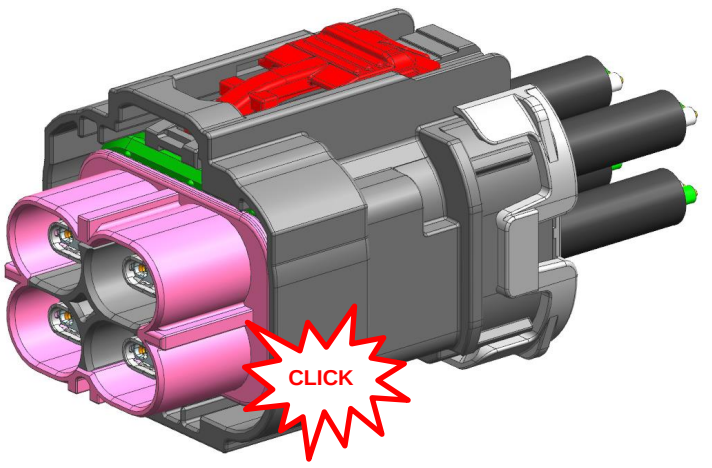


Step 6 – Lock Interface Seal retainer to Full Stage Position

1 **PUSH THE SEAL RETAINER FORWARD TO FULLY SEAT**

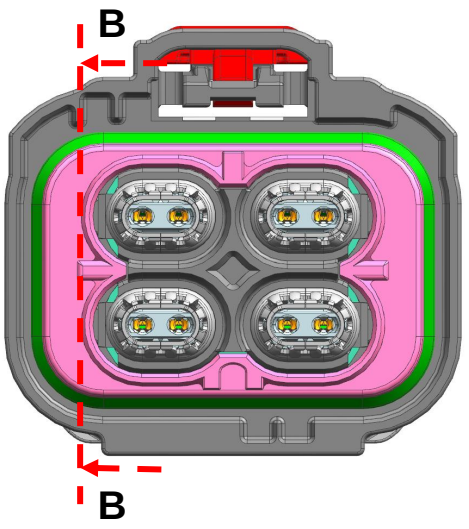


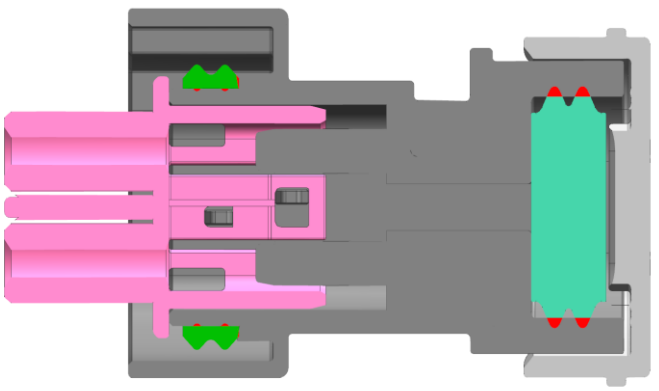
2 **THE INTERFACE SEAL RETAINER MUST BE PARALLEL WITH THE CONNECTOR AND LOCKED IN THE SECOND SET OF SLOTS**



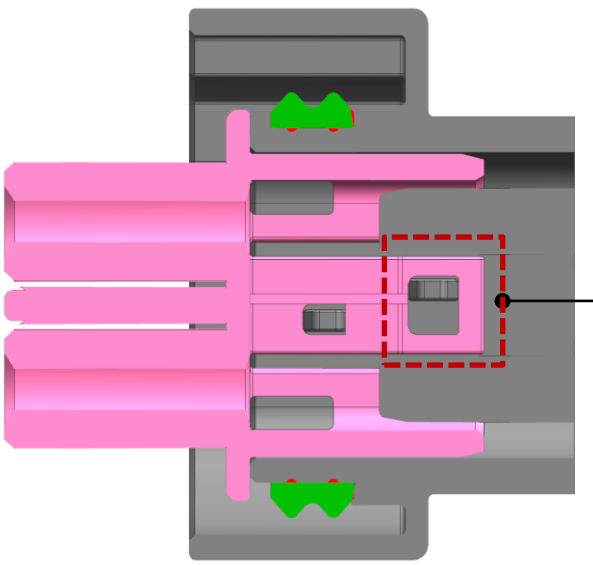
VERIFY AUDIBLE CLICK

***DO NOT FORCE THE RETAINER, IF IT CANNOT BE LOCKED, REVIEW IF TERMINALS ARE FULLY SEATED**



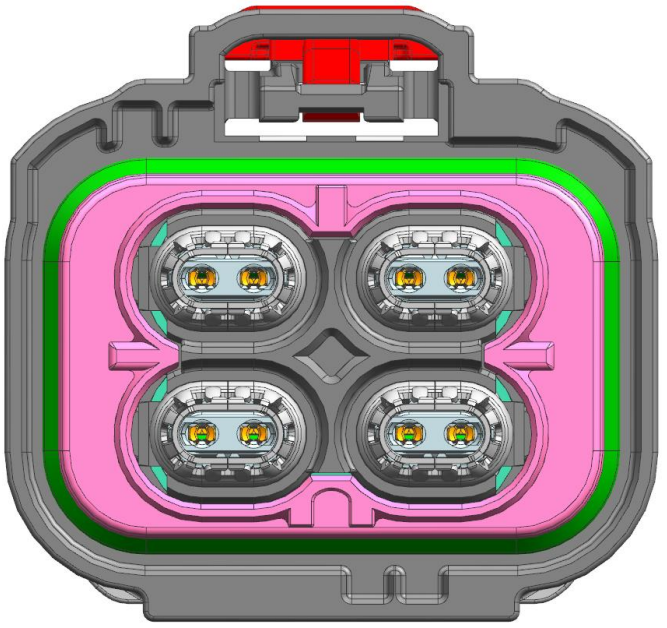


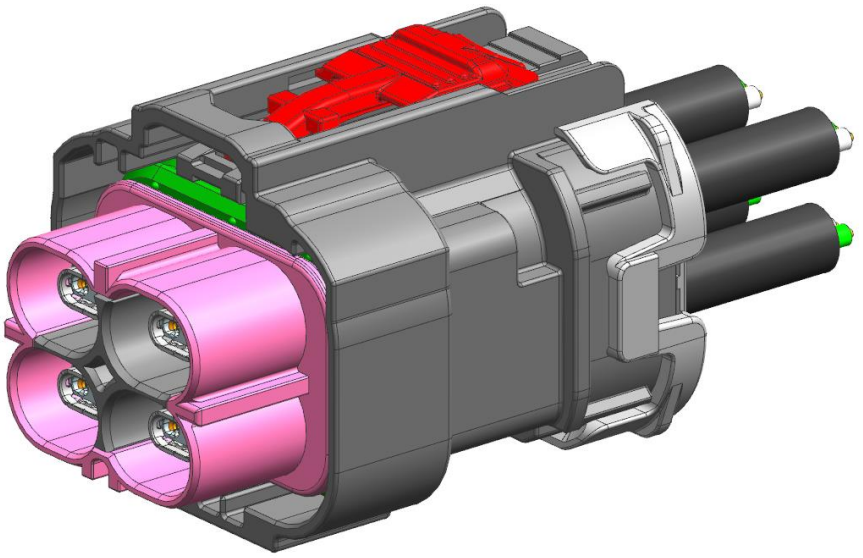
SECTION B-B



INTERFACE SEAL RETAINER IS NOW IN FINAL-STAGE POSITION

FEMALE HARNESS ASSEMBLY – COMPLETED



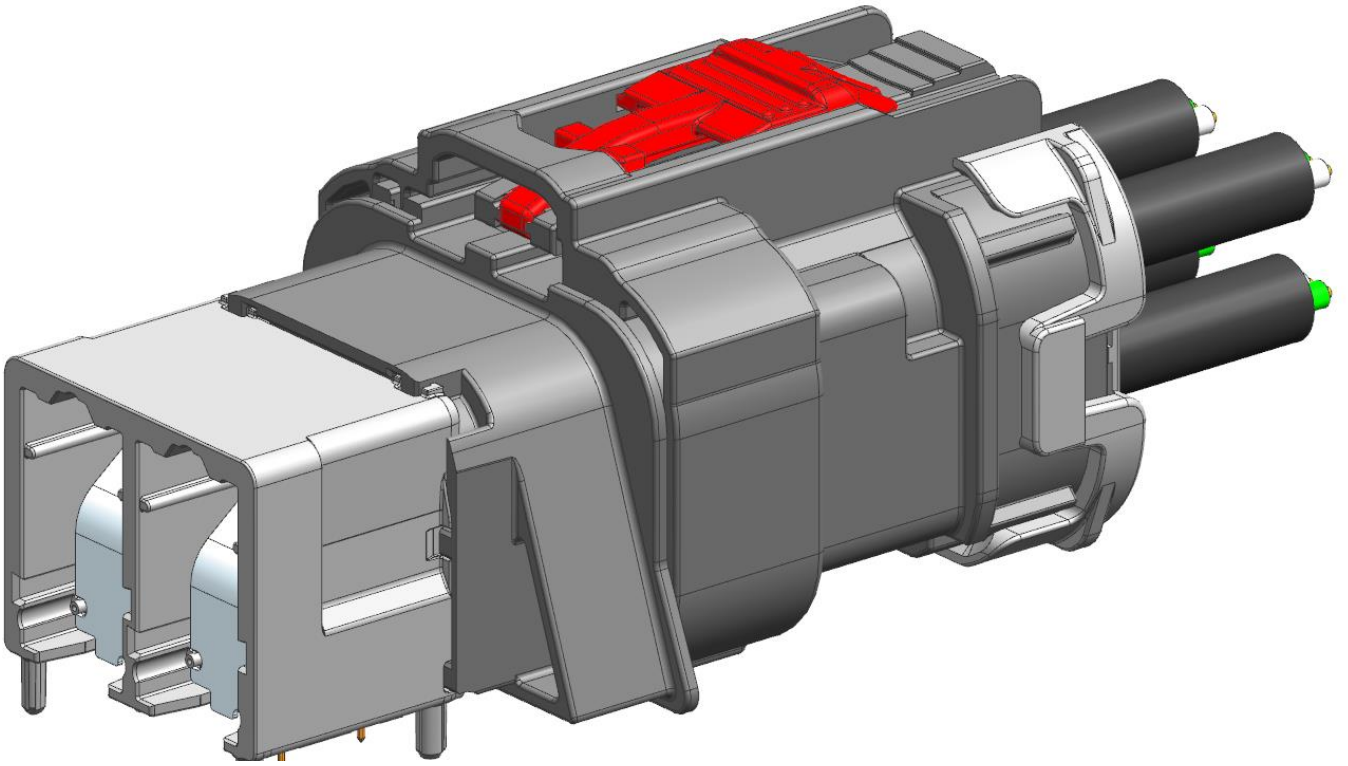


PERFORM TESTS, APPLY COVERINGS AS REQUIRED. INSPECT THE ASSEMBLY.

ASSEMBLY OF THE CONNECTION SYSTEM

PRE - ASSEMBLY HARNESS ASSEMBLY **CAR ASSEMBLY**

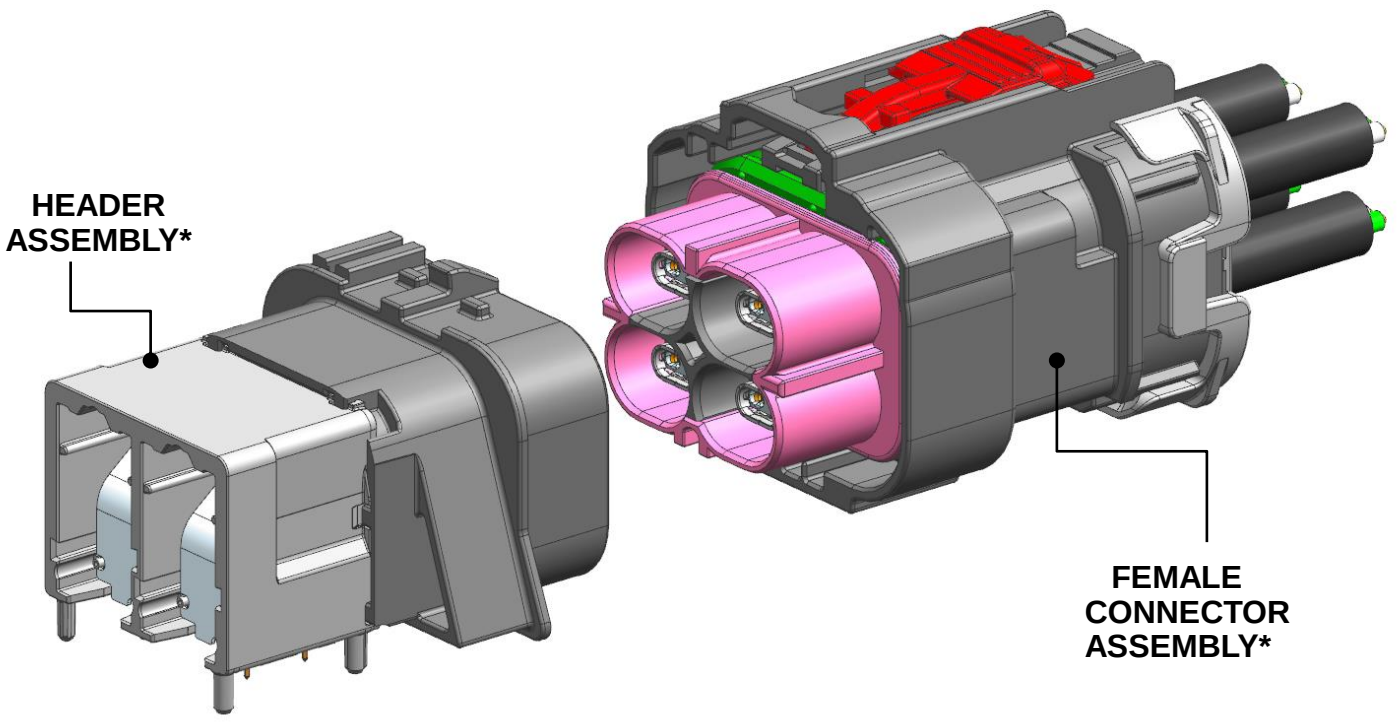
4 PORT H-MTD Sealed Connector



LIST OF COMPONENTS & EXPLODED VIEW

QUANTITY	COMPONENTS
1	FEMALE CONNECTOR ASSEMBLY*
1	HEADER ASSEMBLY*

ADDITIONAL INFORMATION AND REFERENCE TO ANOTHER DRAWINGS, DOCUMENTS, ETC. FOR EXAMPLE: REFER TO LATEST DRAWINGS FOR PART NUMBERS AND DETAILS

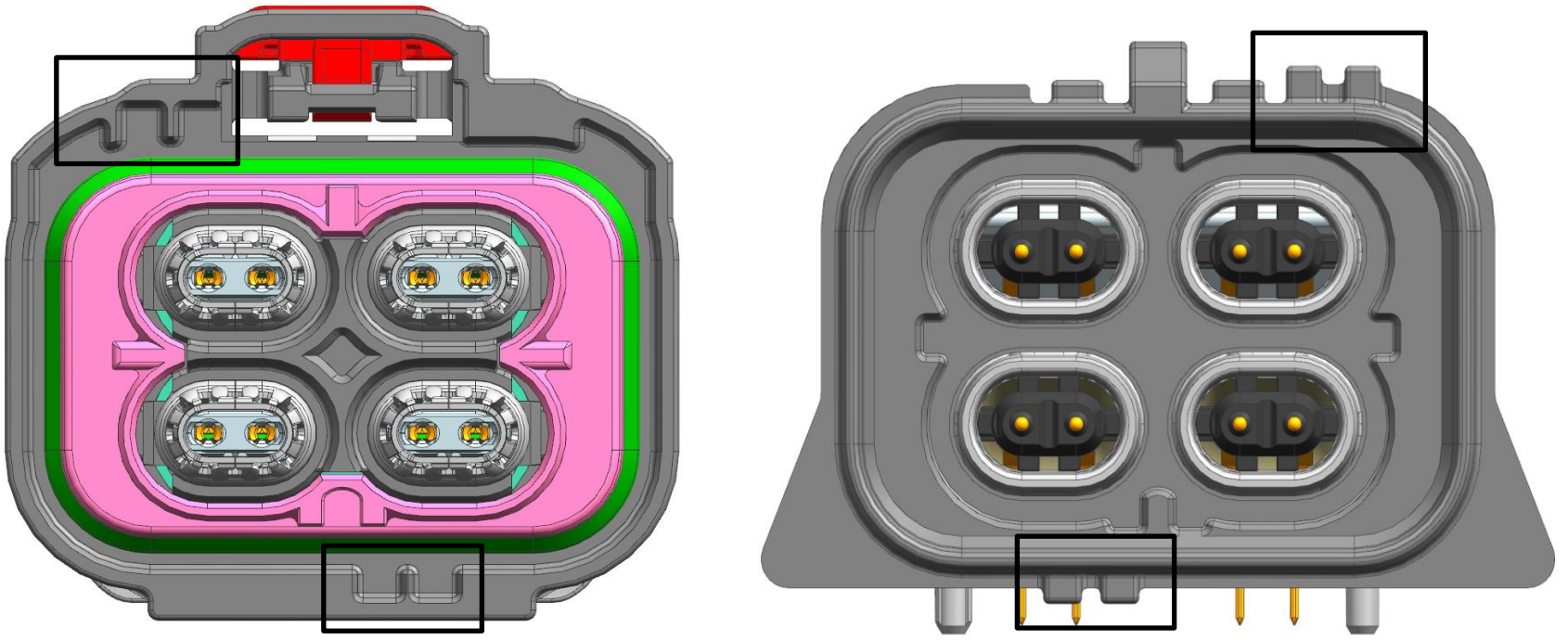


* THE PRODUCT AND ITS SINGLE COMPONENTS MUST NOT BE DAMAGED DURING THE ASSEMBLY PROCESS. CHEMICAL OR MECHANICAL DAMAGE IS NOT ALLOWED. THE PRODUCT SHALL NOT BE EXPOSED TO ENVIRONMENTAL POLLUTION DURING STORAGE OR ASSEMBLY. THE COMPONENTS SHOULD BE USED ON A FIFO (FIRST IN FIRST OUT) BASIS. STORAGE ALLOWED ONLY IN ORIGINAL UNOPENED SHIPPING CONTAINERS. SHELF LIFE OF 1 YEAR MAXIMUM FROM DATE OF ARRIVAL.
PERMISSIBLE STORAGE TEMPERATURE: MIN. 10°C, MAX. 45°C & <75% RH.

Pictures used in this Assembly Manual and original parts may differ in some details, these differences have no influence on the assembly process.

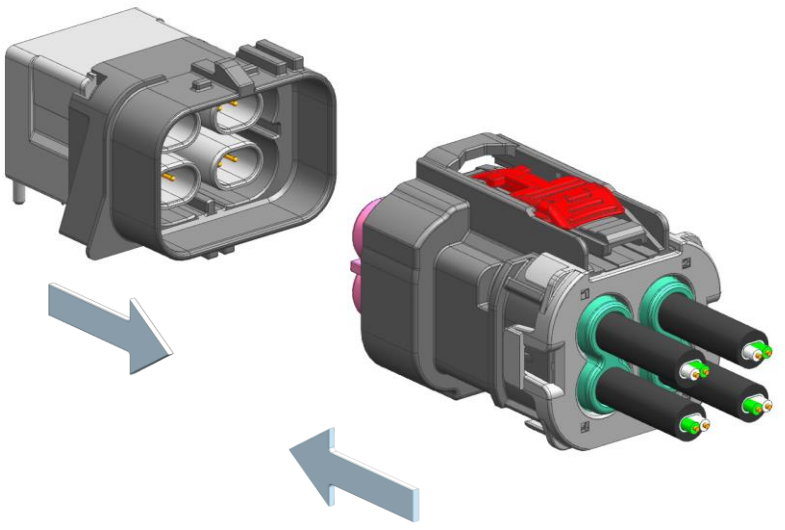
STEP 1 – Identify Index Features

FRONT VIEWS

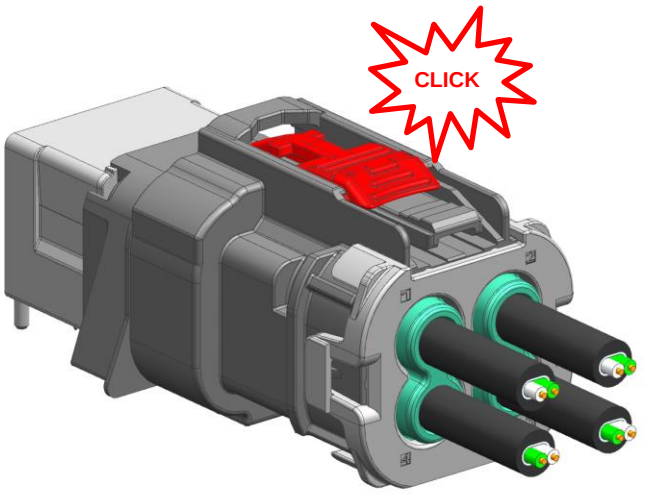


STEP 2 – Align Index Features and Mate Female Assembly and Male Assembly Together

IMPORTANT! IF THE INDEXES DON'T LINE UP DO NOT CONTINUE

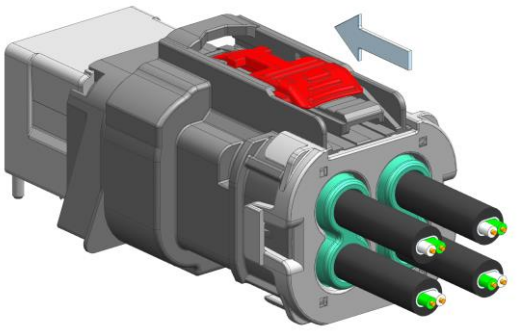


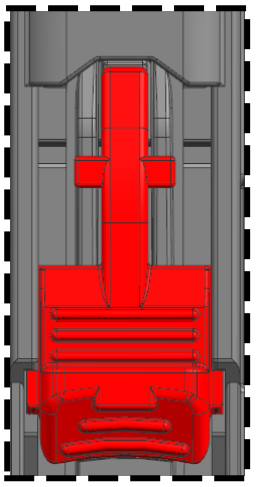
VERIFY AUDIBLE CHECK



STEP 3 – Lock CPA to Full-Stage Position (Optional Component)

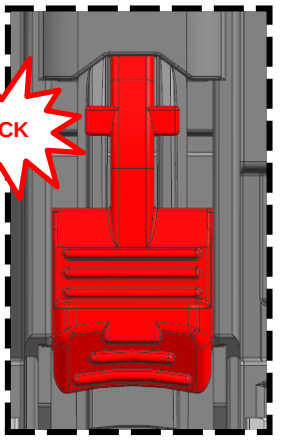
PUSH THE CPA ONTO CONNECTOR HOUSING BY SLIDING THE CPA RIBS INTO THE CONNECTOR SLOTS





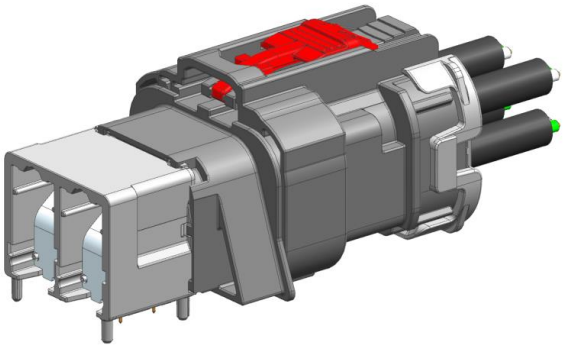
DETAIL

CPA IS NOW IN FULL-STAGE POSITION

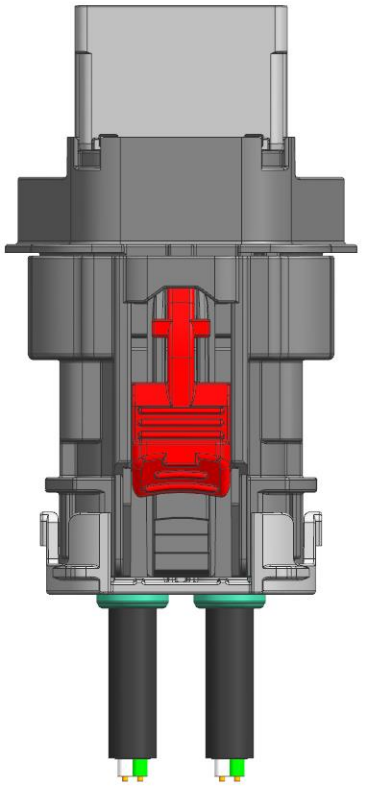


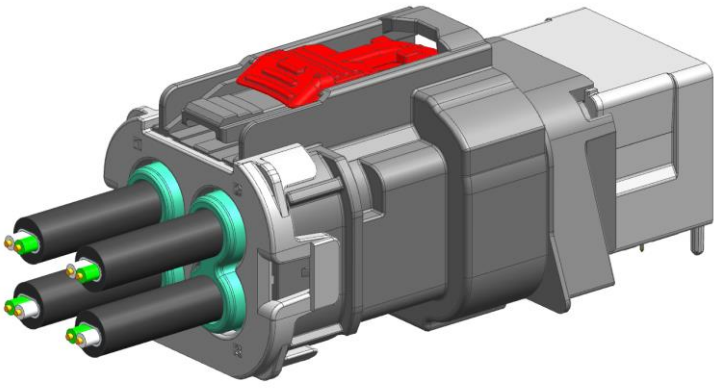
VERIFY AUDIBLE CLICK

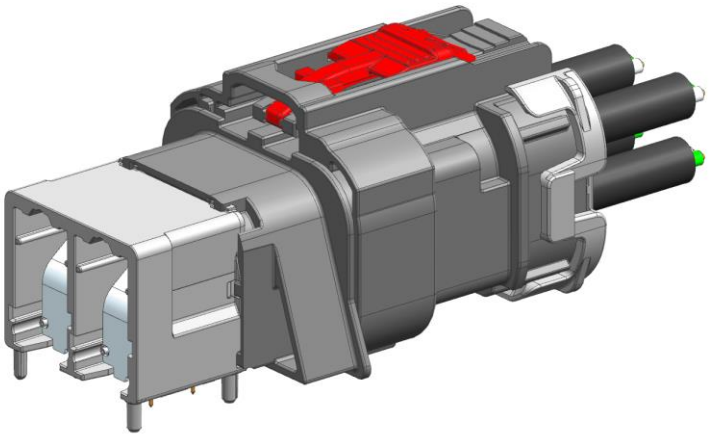
DETAIL



CONNECTION SYSTEM ASSEMBLY – COMPLETED



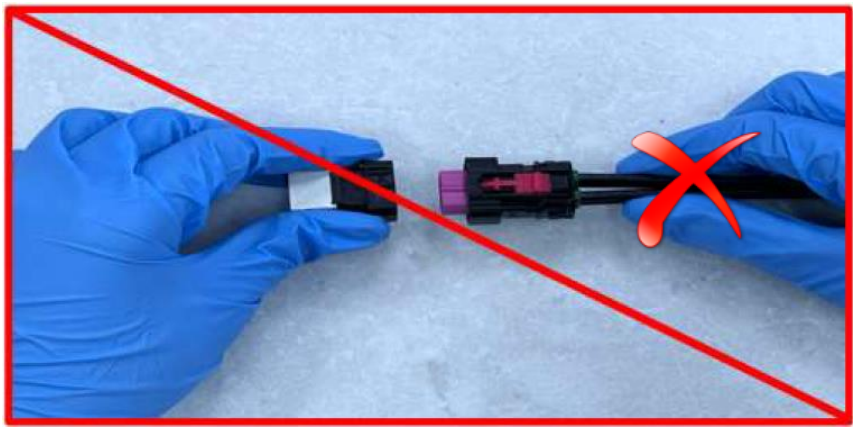




MATING PROCESS

1 **THE PLASTIC HOUSING SHOULD BE HELD IN HAND DURING MATING AND PULLING OUT, NOT THE WIRING HARNESS.**





2 **ACCORDING TO APTIV DESIGN, THE CPA CAN BE PUSHED IN AND OUT BY HAND.**

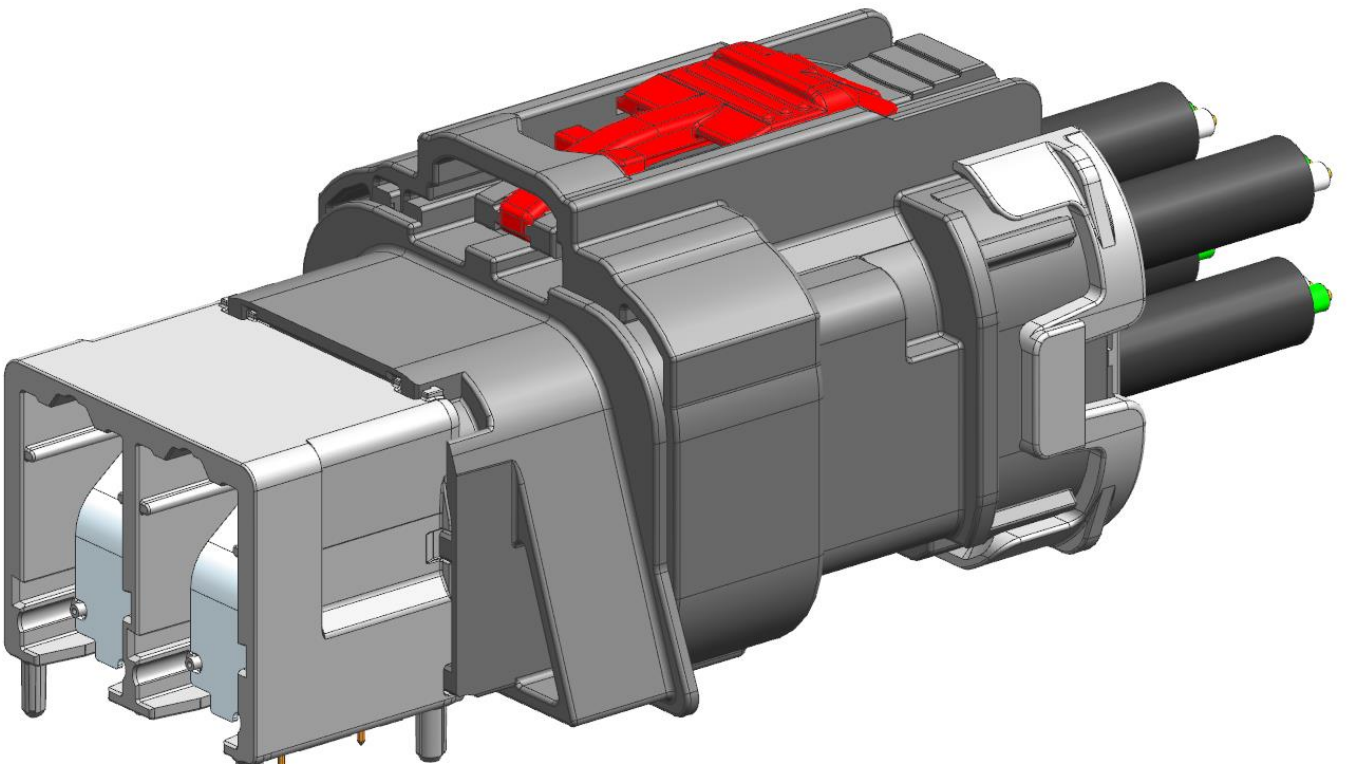




DISASSEMBLY OF THE CONNECTION SYSTEM

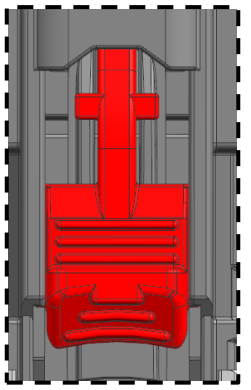
PRE - ASSEMBLY HARNESS ASSEMBLY **CAR ASSEMBLY**

4 PORT H-MTD Sealed Connector

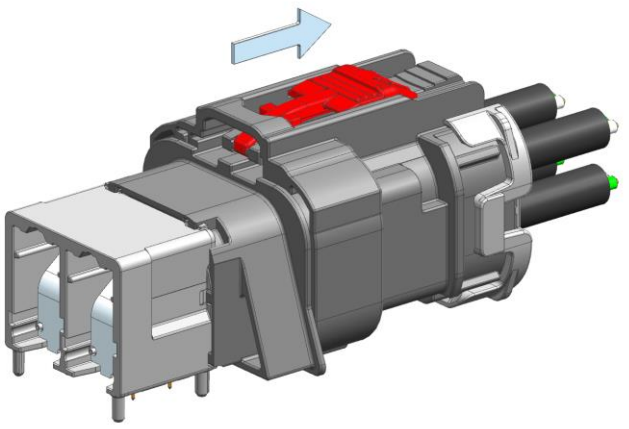


STEP 1 – Move CPA to Pre-Stage Position (Optional Component)

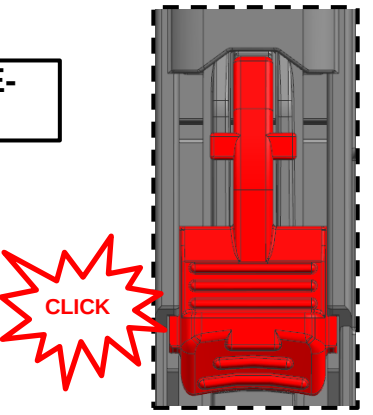
HOLD THE CPA AND SLIDE TO BACK SIDE OF CONNECTOR



DETAIL

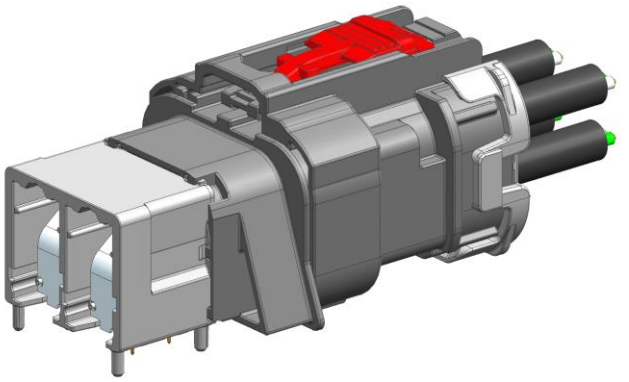


CPA IS NOW IN PRE-STAGE POSITION



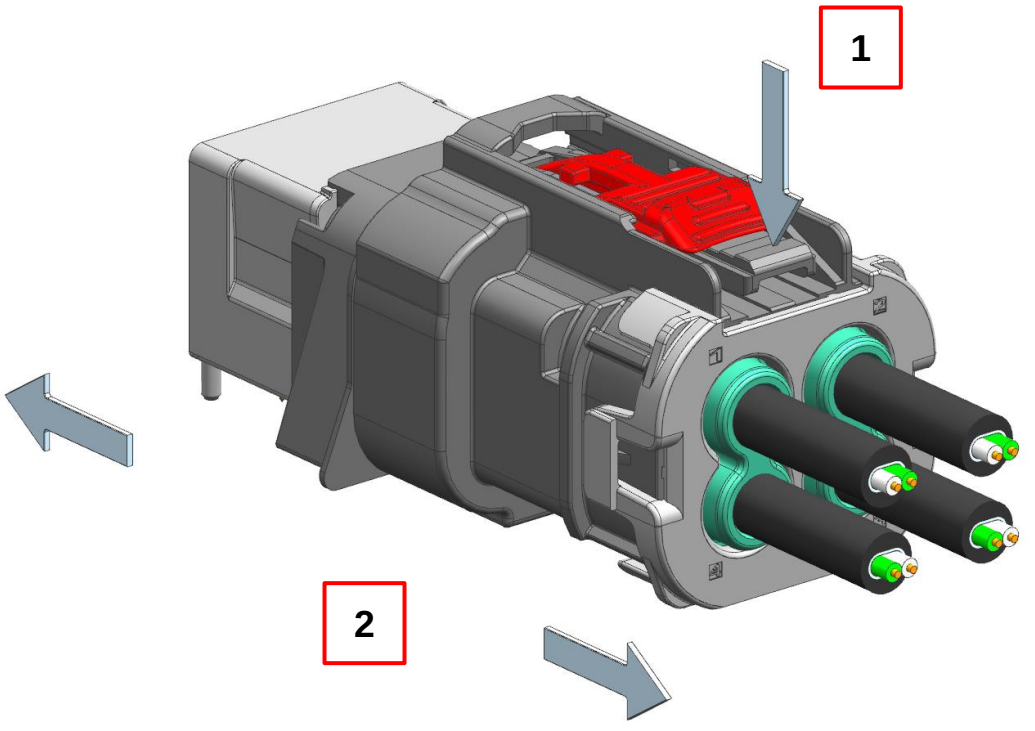
DETAIL

VERIFY AUDIBLE CLICK

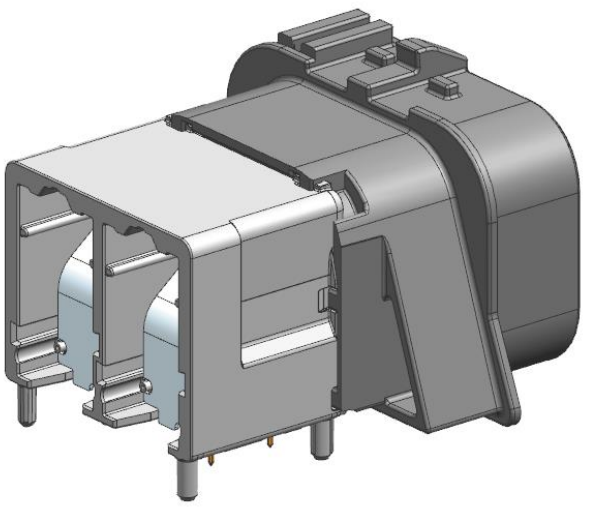


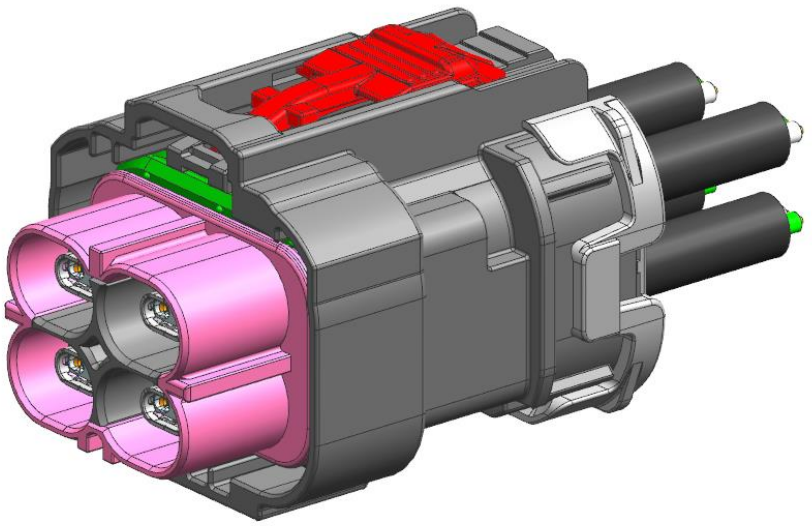
STEP 2 – Disconnect

LOCATE AND PRESS DOWN THE CONNECTOR LOCK (1)
WITH THE LOCK DEFLECTED, DISENGAGE THE CONNECTOR ASSEMBLIES (2)



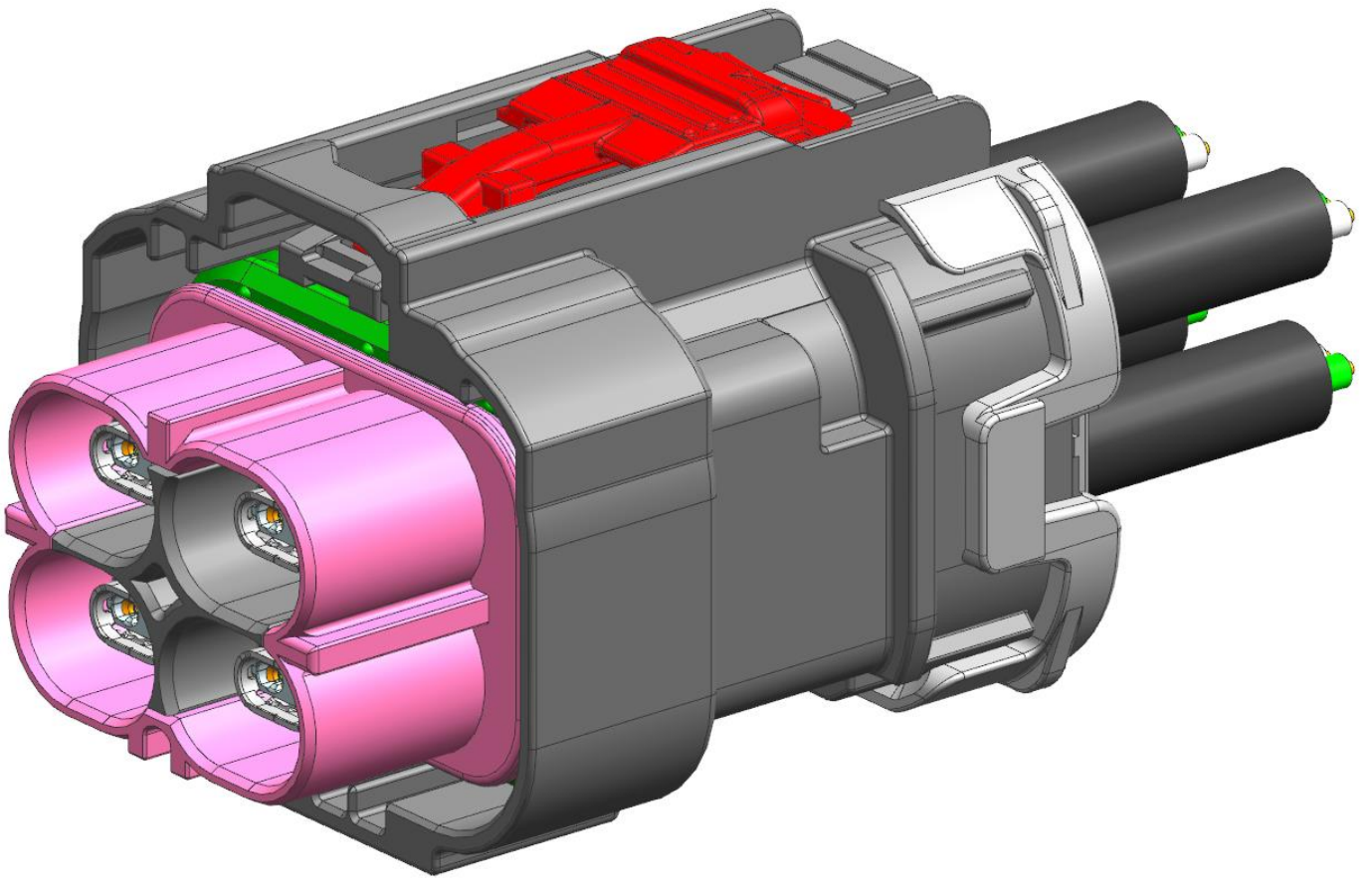
CONNECTION SYSTEM DISASSEMBLY COMPLETED



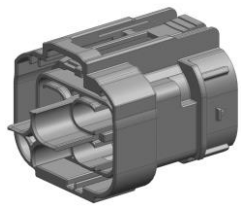
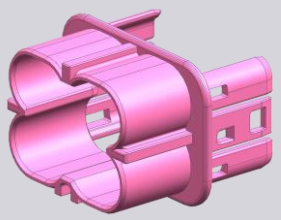
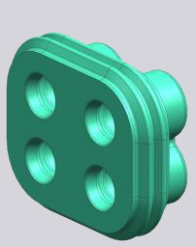
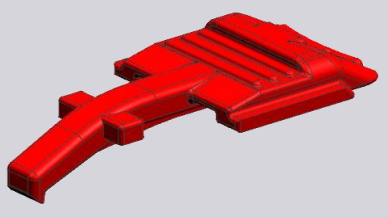


REPAIR/REPLACEMENT
OF THE FEMALE ASSEMBLY

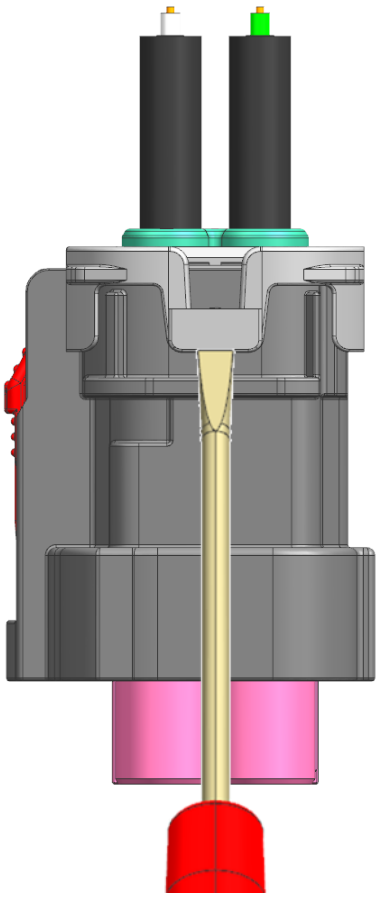
4 PORT H-MTD Sealed Connector



COMPONENT REPAIR/ REUSE CAPABILITIES

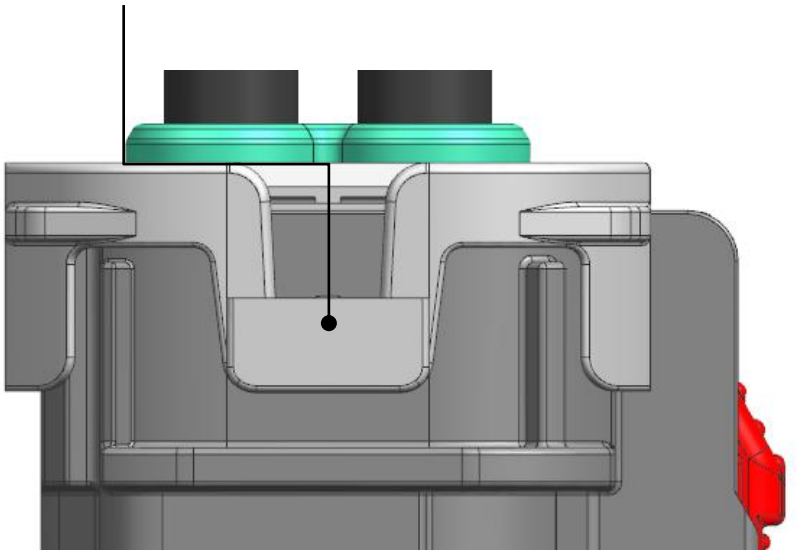
COMPONENT	IS IT REPAIRABLE?/ REUSABLE	COMMENTS
	NO	CONNECTOR HOUSING MUST BE REPLACED
	NO	INTERFACE SEAL RETAINER MUST BE REPLACED
	NO	INTERFACE SEAL MUST BE REPLACED
	NO	CABLE SEAL MUST BE REPLACED
	NO	CAP MUST BE REPLACED
	NO	CPA MUST BE REPLACED
	YES	CRIMPED TERMINAL IS RECOVERABLE; VERIFY ITS CONDITION BEFORE REUSE

STEP 1a - FEMALE H-MTD TERMINAL REPLACEMENT (Locate Tool)



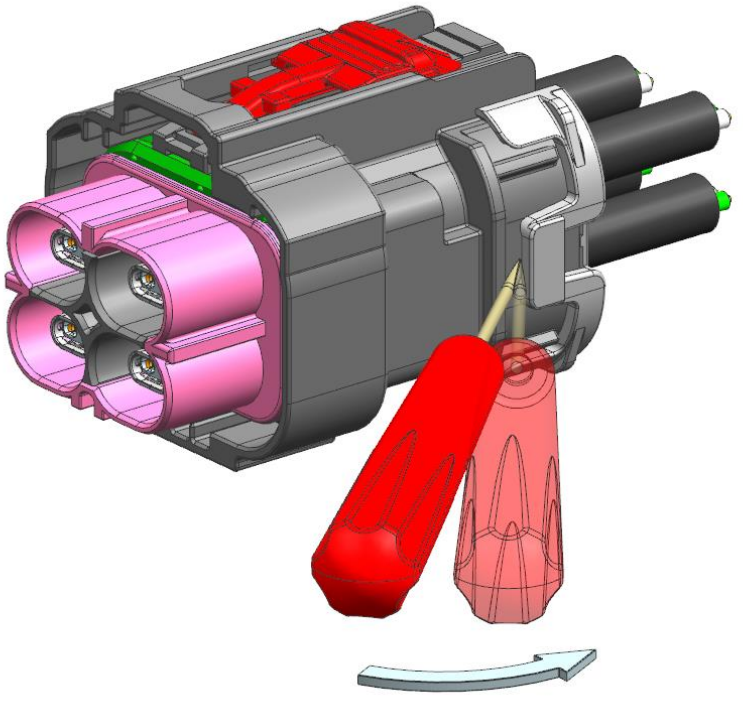
LOCATE THE AREA TO INSERT THE TOOL

AREA FOR TOOL

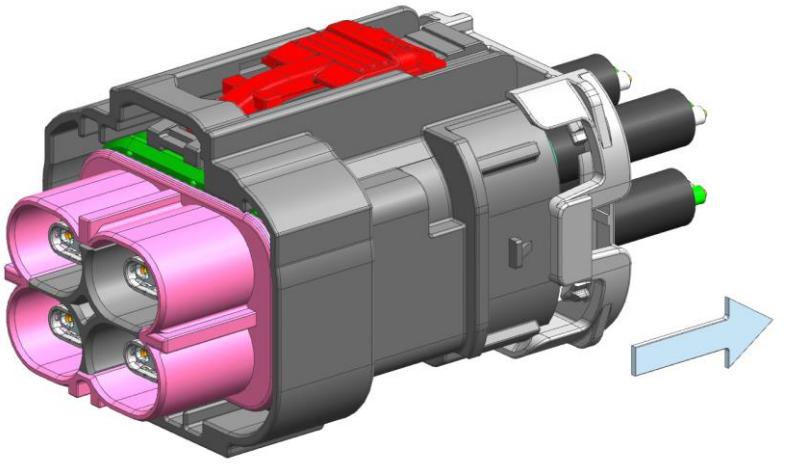


STEP 2a - FEMALE H-MTD TERMINAL REPLACEMENT (Remove CAP)

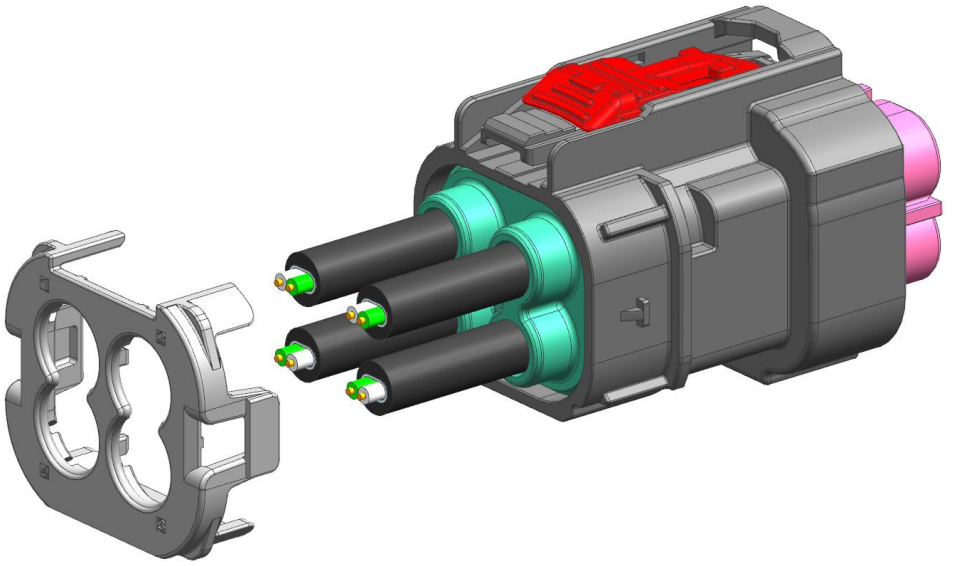
1 **INSERT TIP OF TOOL BETWEEN THE CAP AND CONNECTOR HOUSING**



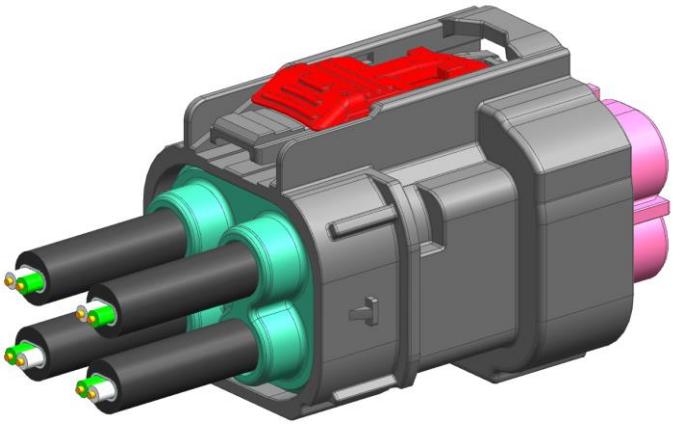
2 **USE THE CONNECTOR AS LEVERAGE TO LIFT AND RELEASE THE CAP FROM ITS POSITION**



STEP 2b - FEMALE H-MTD TERMINAL REPLACEMENT (Remove CAP)

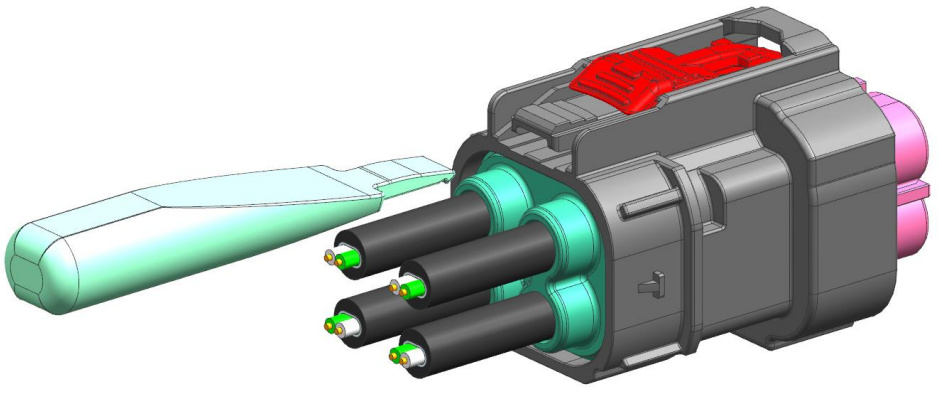


CAP REMOVED

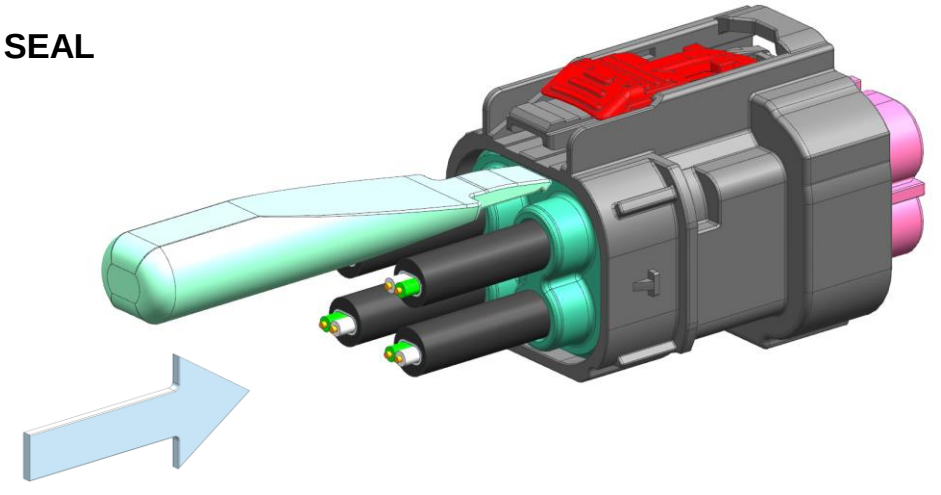


STEP 3a - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Cable Seal)

3 **ALIGN THE CABLE SEAL REMOVAL TOOL IN PROPER DIRECTION**

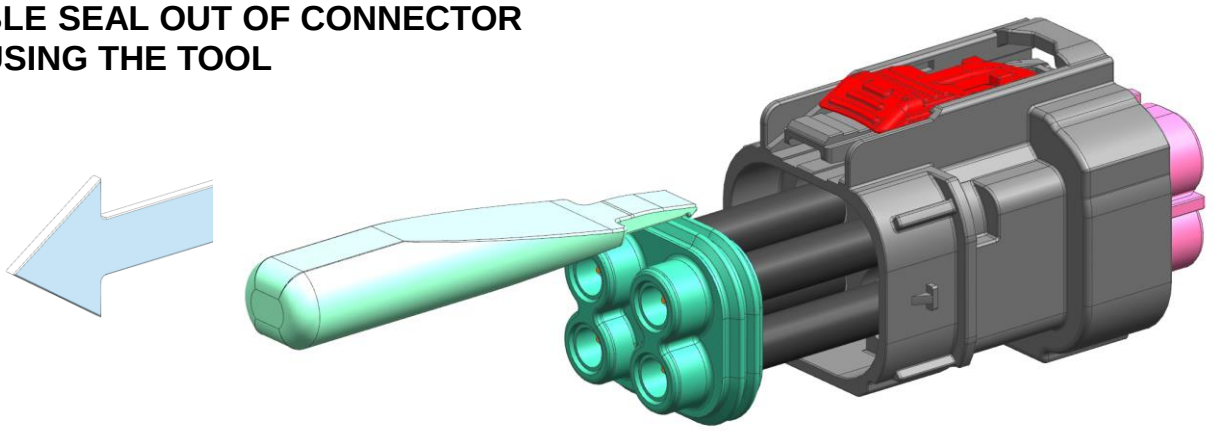


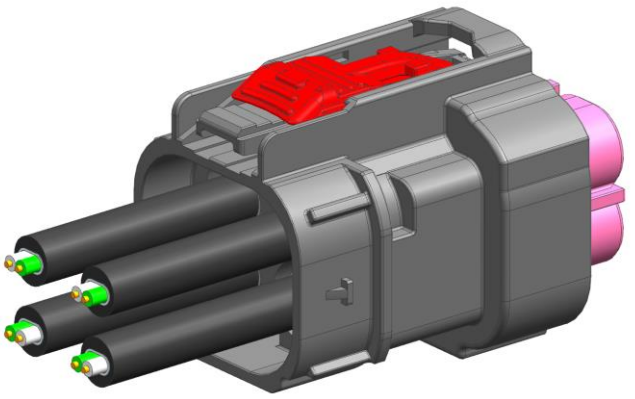
4 **INSERT THE TOOL BETWEEN CABLE SEAL AND CONNECTOR HOUSING**



STEP 3b - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Cable Seal)

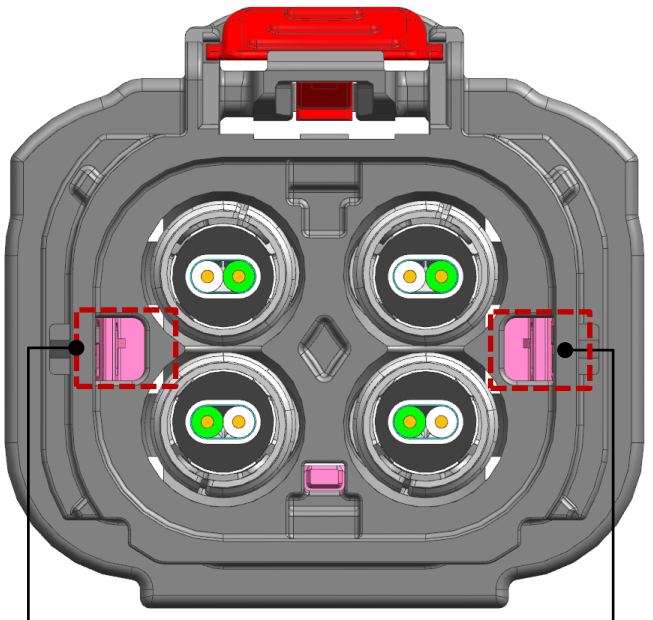
5 **PULL THE CABLE SEAL OUT OF CONNECTOR HOUSING BY USING THE TOOL**

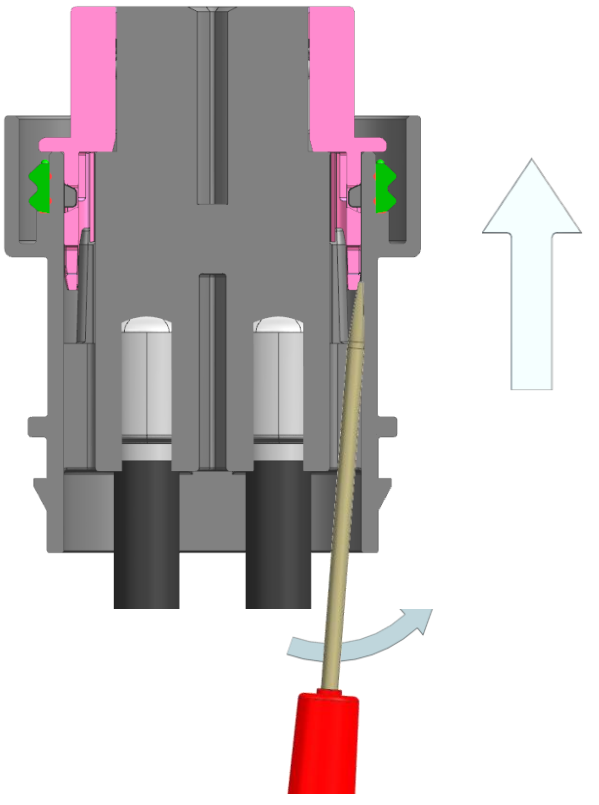




CABLE SEAL REMOVED

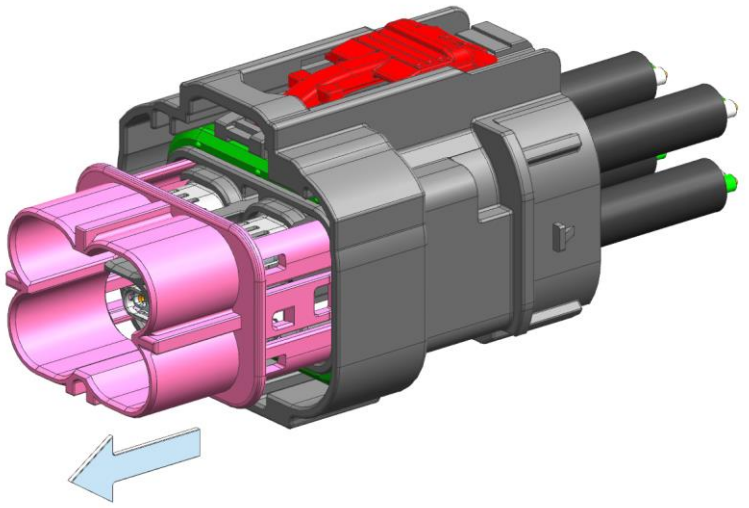
STEP 4a - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Interface seal retainer)

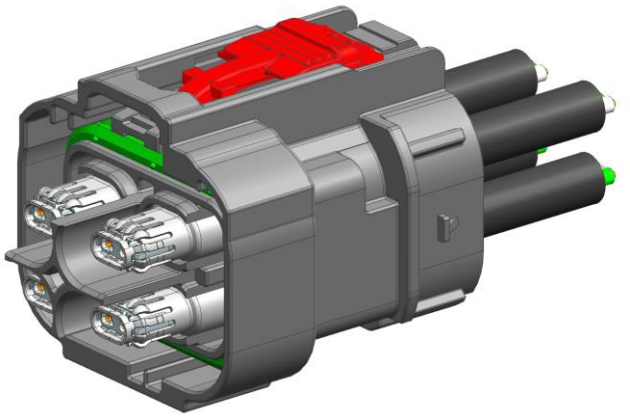




INSERT TIP OF TOOL BETWEEN THE INTERFACE SEAL RETAINER AND CONNECTOR HOUSING AND TILT THE TOOL TO REMOVE FROM ITS PRE-STAGE POSITION

STEP 4b - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Interface Seal Retainer)



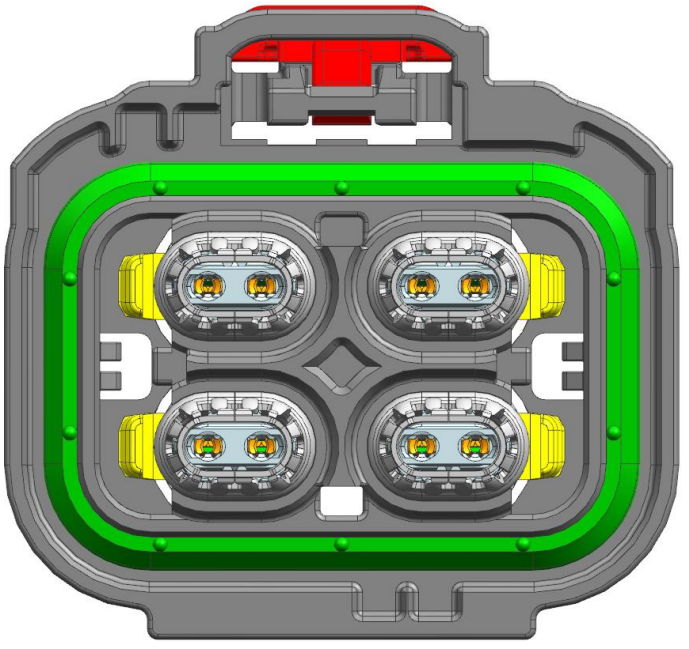


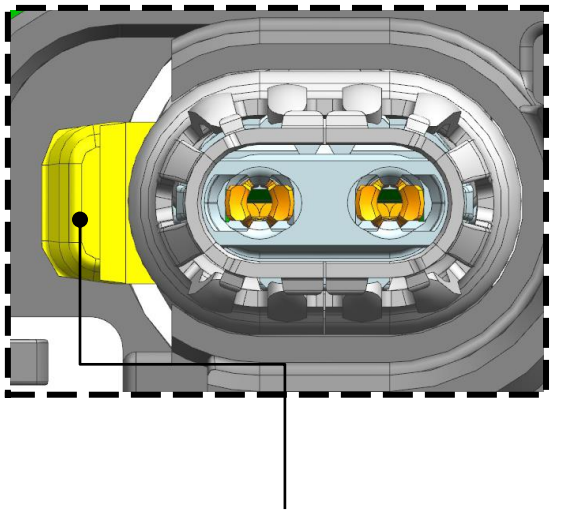
INTERFACE SEAL RETAINER REMOVED

REPEAT THE SAME PROCESS TO RELEASE THE INTERFACE SEAL RETAINER FROM ITS PRE-STAGE POSITION

STEP 5a - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Terminal)

LOCATE THE TERMINAL FLEX LOCK (HIGHLIGHTED IN YELLOW)

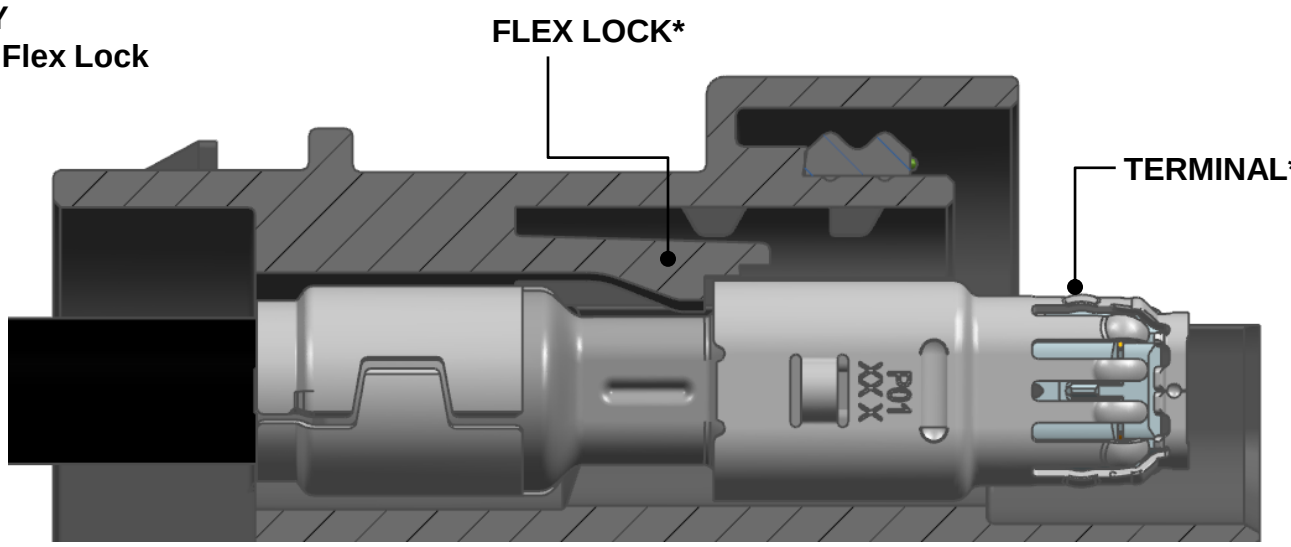




TERMINAL FLEX LOCK

STEP 5b - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Terminal)

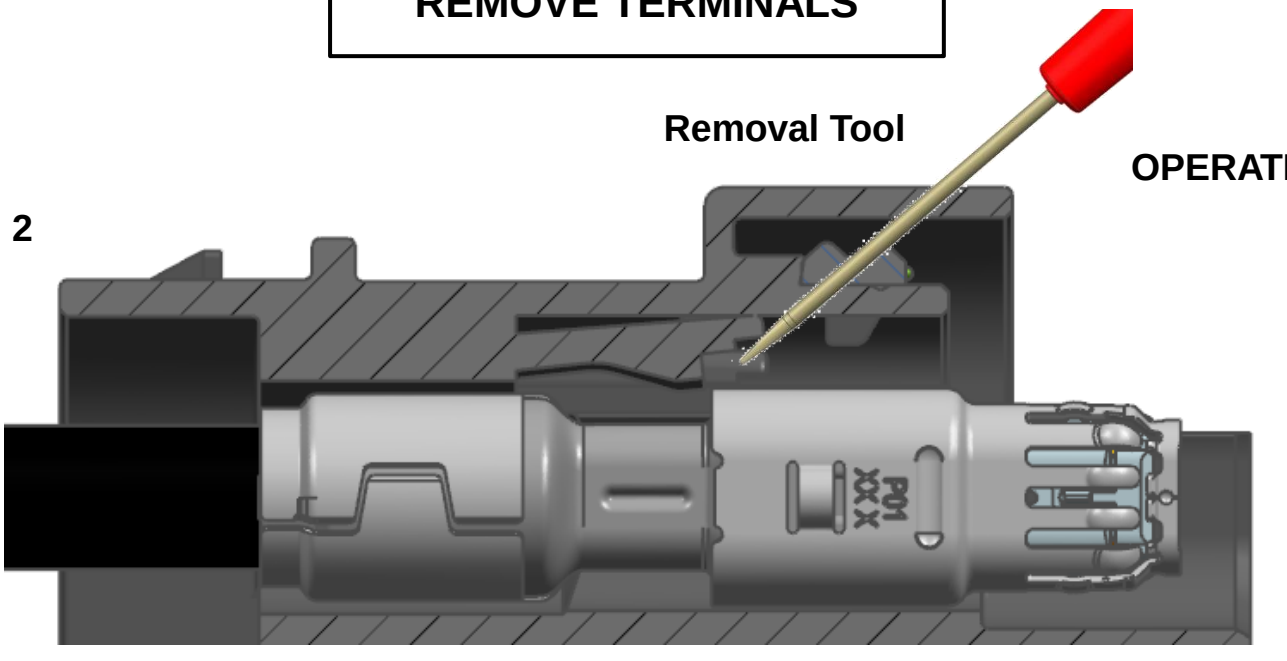
REMOVE TERMINALS



* This graph just represents how this kind of terminals are removed.

STEP 5c - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Terminal)

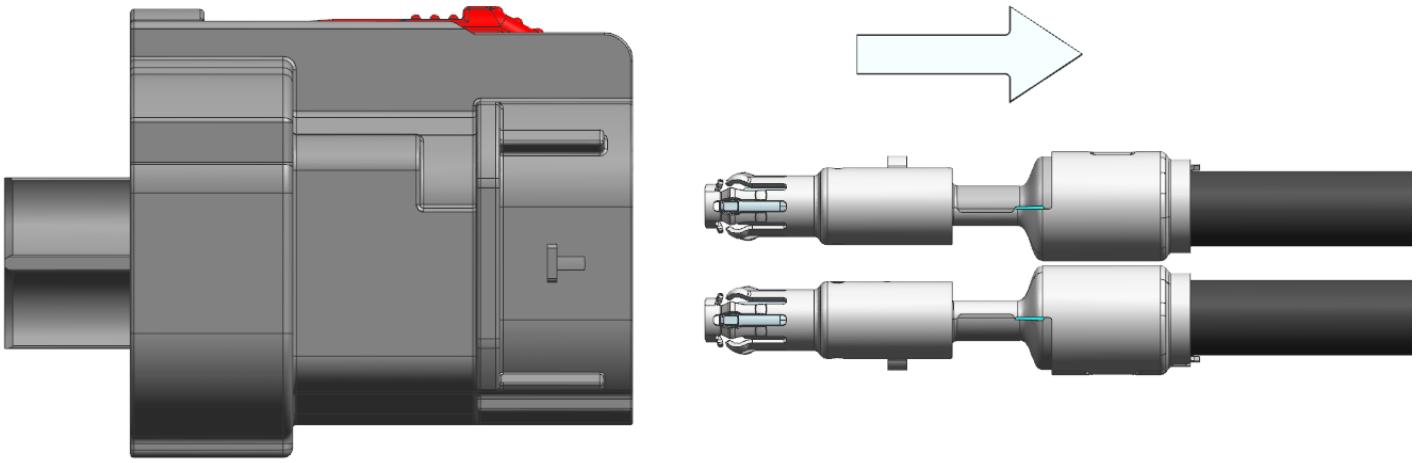
REMOVE TERMINALS



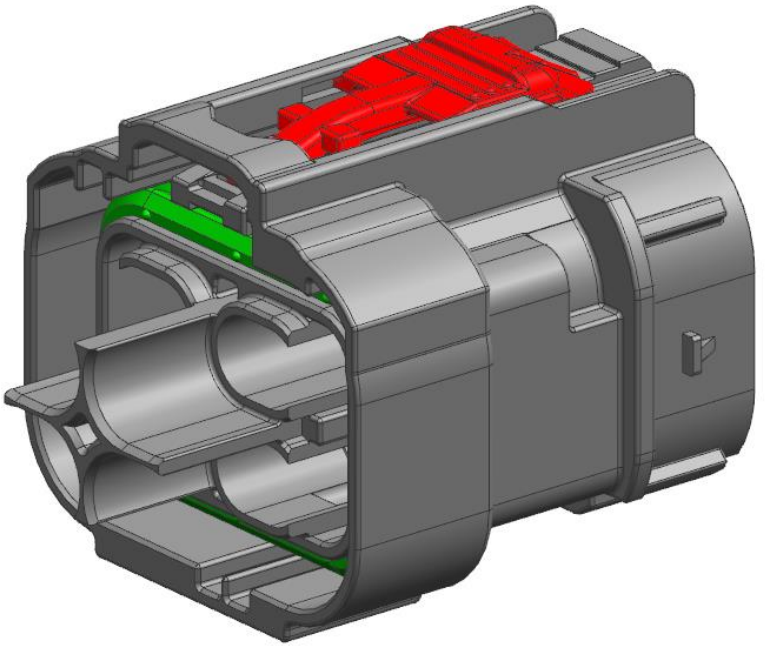
LOCATE FLEX LOCK & INSERT (OPERATION 1) TOOL BETWEEN THE FLEX LOCK AND TERMINAL, DEFLECT THE FLEX LOCK TO UNSEAT THE TERMINAL AND GENTLY PULL ON THE CABLE TO REMOVE (OPERATION 2) THE TERMINAL FROM THE CONNECTOR.

* This graph just represents how this kind of terminals are removed.

STEP 5d - FEMALE H-MTD TERMINAL REPLACEMENT (Remove Terminal)



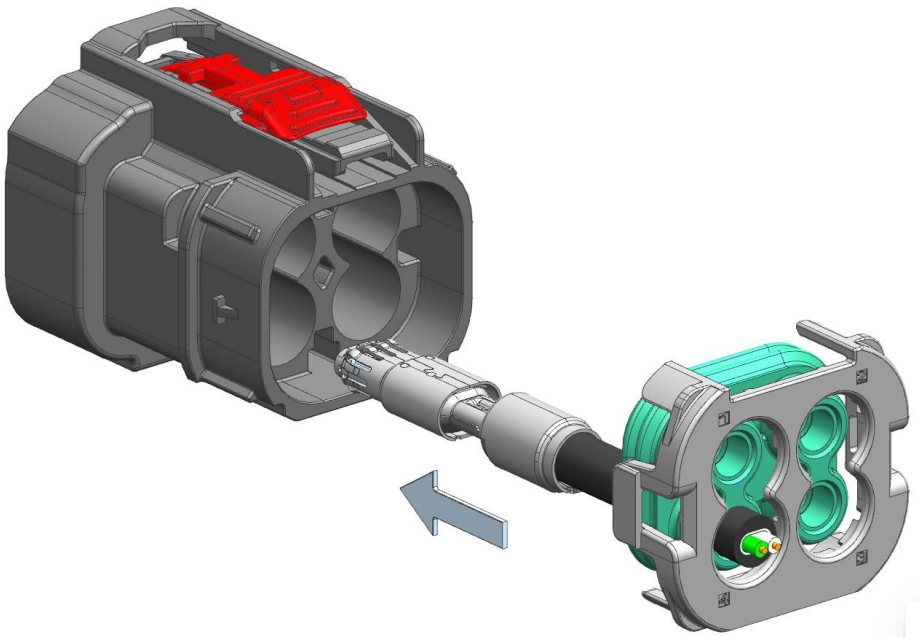
REMOVE THE TERMINAL FROM THE FEMALE CONNECTOR HOUSING

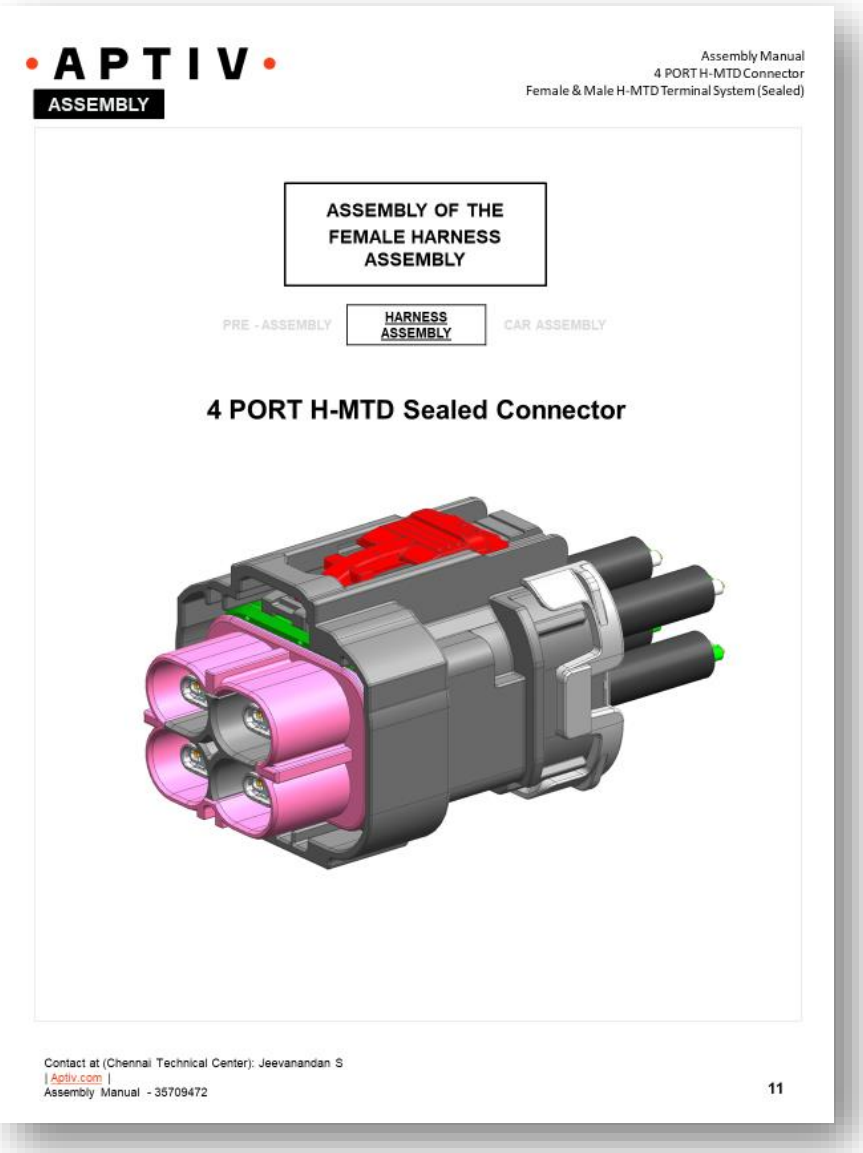


TERMINALS REMOVED

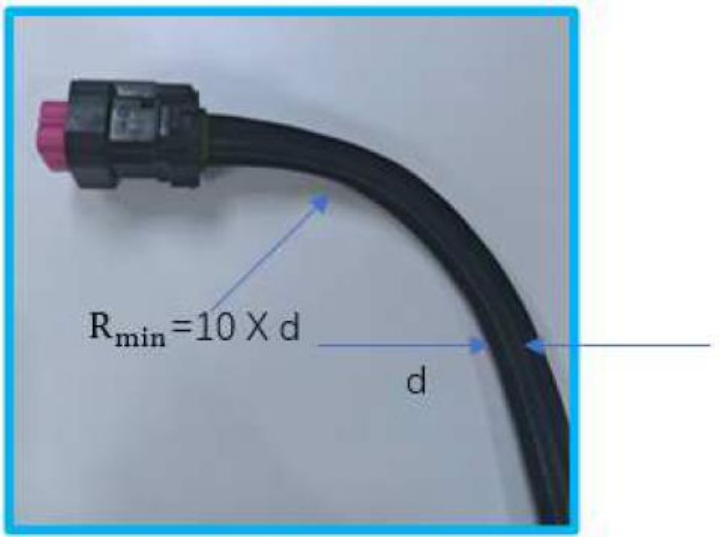
STEP 6- FEMALE H-MTD TERMINAL REPLACEMENT (Insert Terminal)

REFER TO HARNESS ASSEMBLY SECTION





RADIUS BEND



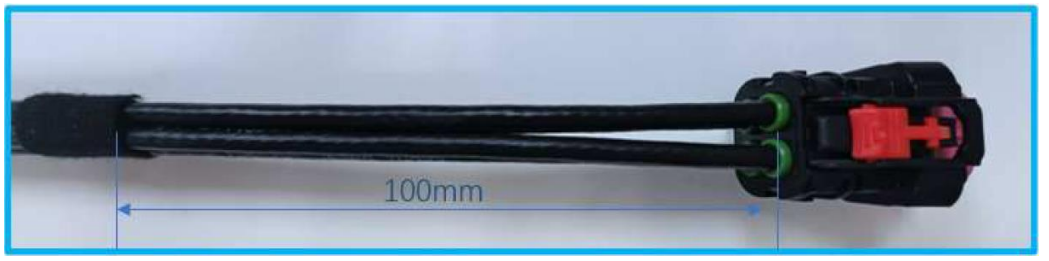


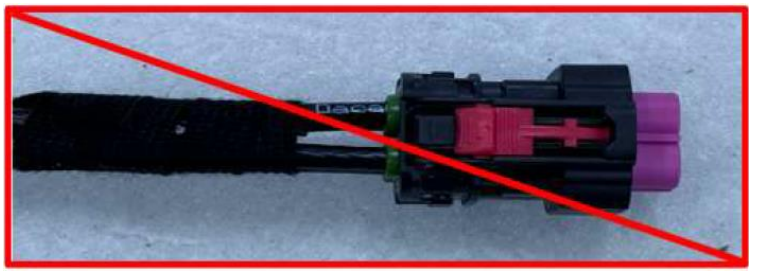
Wire Type	Cable OD
DACAR 647-4	4.1+/-0.2mm
GG X9305	3.8+/-0.2mm

REMARK:

THE MINIMUM BENDING RADIUS IS EQUAL TO 10 TIMES THE WIRE DIAMETER.

BANDAGE









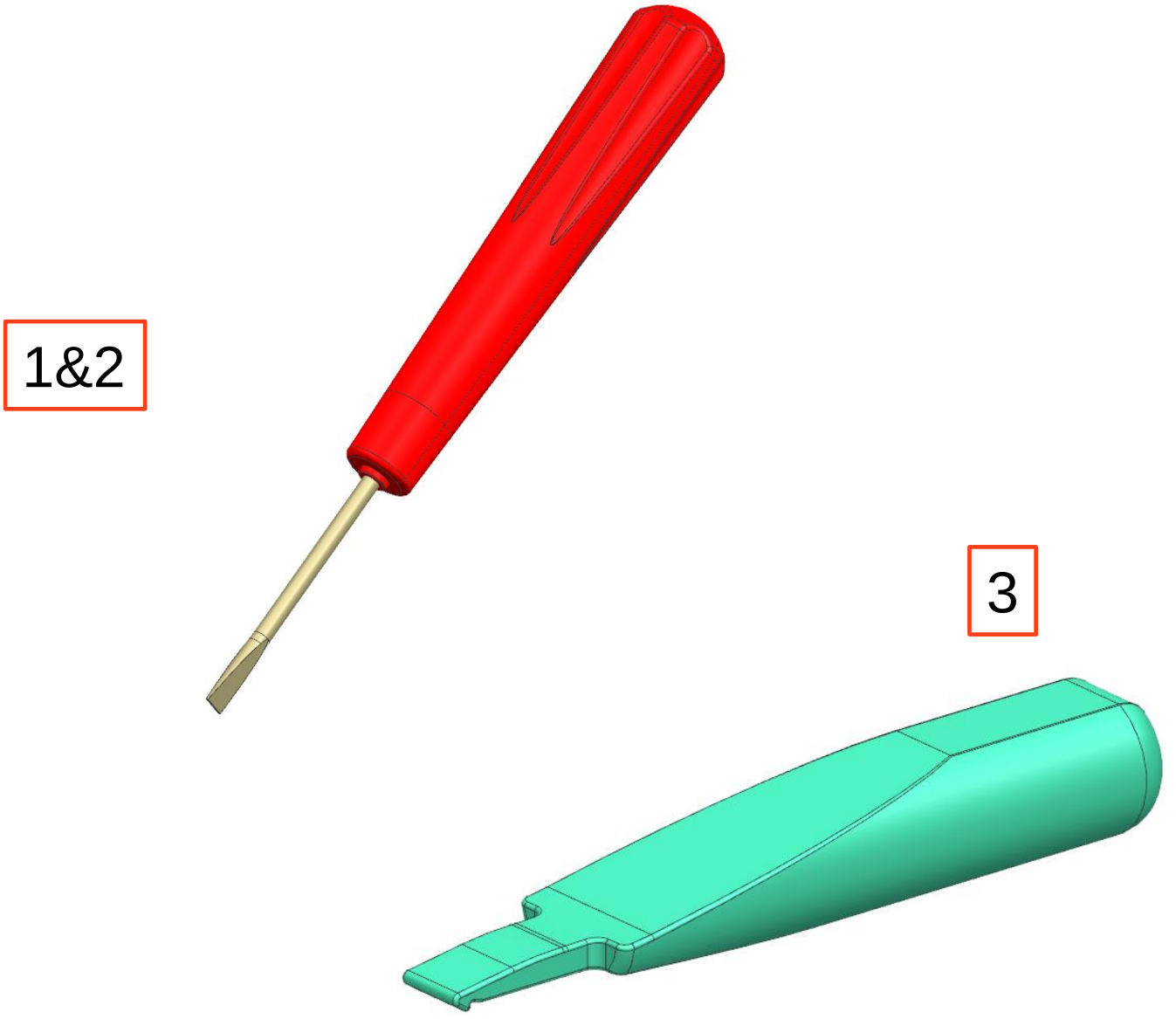




REMARK:

FOR THE MULTIPLE CONNECTION SYSTEM, BANDAGE DISTANCE FROM CONNECTOR 100MM.AND CABLE CANNOT BE TWISTED.

RECOMMENDED REPAIR TOOLS



ITEM	APTIV PART NUMBER
1	12122647 OR 12094430 – FOR RETAINER & CAP REMOVAL
2	12122647 OR 12094430 – FOR TERMINAL REMOVAL
3	FOR CABLE SEAL REMOVAL

REVISIONS

DATE	REV	REVISION HISTORY	AUTH
08AU24	01	INITIAL RELEASE	449934