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1 GENERAL

1.1 PURPOSE

This specification describes how to handle the 58 way connector and its components.

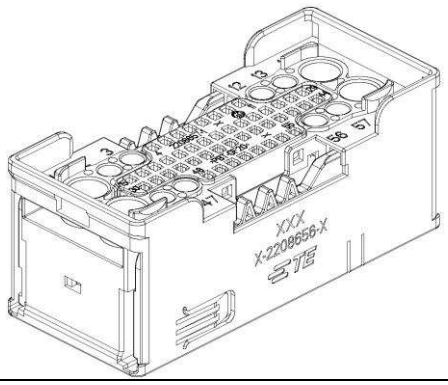
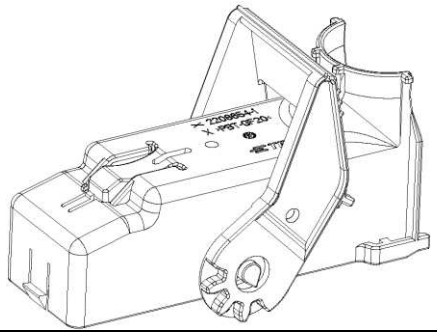
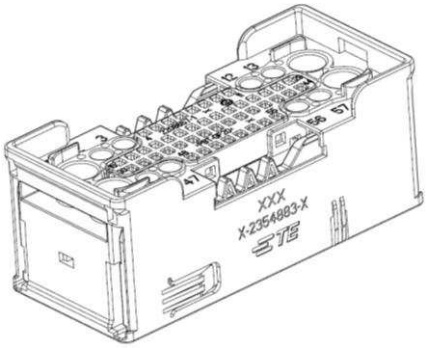
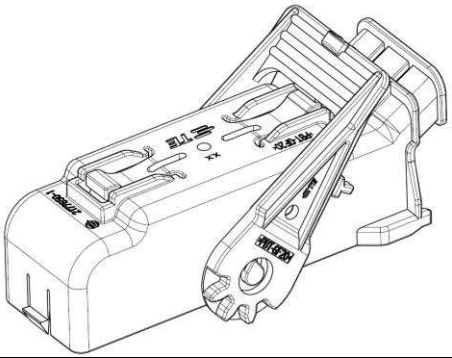
1.2 CUSTOMER DRAWINGS / INTERFACE SPECIFICATION

This application specification is based on the latest valid customer drawings.

C-2208656	FEMALE HOUSING ASSEMBLY, 58 WAY ABS CONNECTOR
C-2208653	WIRE COVER ASSEMBLY, CABLE EXIT 180°, 58 WAY ABS CONNECTOR
C-2354883	FEMALE HOUSING ASSEMBLY, 58 WAY ABS CONNECTOR
C-2177649	WIRE COVER, 58 WAY ABS CONNECTOR

INTERFACE SPECIFICATION: 114-94233 58 WAY ABS CONNECTOR

1.3 DELIVERY CONDITION OF CONNECTOR AND WIRE COVER

58 WAY ABS CONNECTOR ASSEMBLY	PN X-2208656-X	
WIRE COVER ASSEMBLY, CABLE EXIT 180° 58 WAY ABS CONNECTOR	PN 2208653-1	
FEMALE HOUSING ASSEMBLY, 58 WAY ABS CONNECTOR	PN X-2354883-X	
WIRE COVER, 58 WAY ABS CONNECTOR	PN 2177649-X	

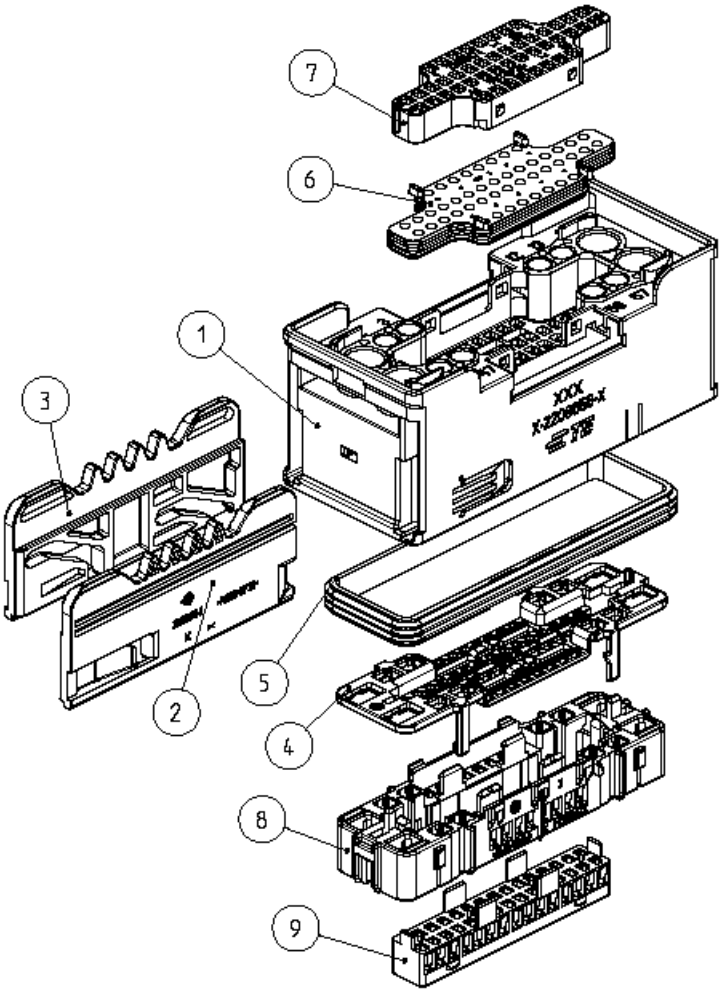
1.4 APPLICABLE COMPONENTS

APPLICABLE COMPONENTS BOX						
DESCRIPTION	**PLATING /COLOUR**	**SUPPLIER**	**SUPPLIER PART NO. (WIRE SIZE)**	**APPL. SINGLE WIRE SEAL**	**TE APPL. SPEC. TE PROD. SPEC.**	**APPL. CONTACT CAVITY NUMBER**
MCON 1.2 CB UNSEALED FEMALE TERMINAL	TIN	TE	1534594-1 (0.35mm²)	NOT APPLICABLE	114-18464 108-18782	4-11, 15-44, 48-55
MCON 1.2 CB UNSEALED FEMALE TERMINAL	TIN	TE	1670144-1 (0.5-0.75mm²)	NOT APPLICABLE		
AMP MCP 2.8K SEALED FEMALE TERMINAL	TIN	TE	1241394-1 (0.5-1.0mm²)	963294-1 FOR CABLE Ø 1.4-2.1 963293-1 FOR CABLE Ø 2.0-2.7 963292-1 FOR CABLE Ø 2.7-3.0	114-18387 108-18717	2-3, 12-13, 46-47, 56-57
AMP MCP 2.8K SEALED FEMALE TERMINAL	TIN	TE	1241396-1 (1.0-2.5mm²)			
AMP MCP 6.3/4.8K SEALED FEMALE TERMINAL	TIN	TE	1241416-1 (>2.5-4.0mm²)	1394512-1 FOR CABLE Ø 3.4-3.7 1719043-1 FOR CABLE Ø 4.0-4.5	114-18388 108-18718	1, 14, 45, 58
AMP MCP 6.3/4.8K SEALED FEMALE TERMINAL	Ag OVER Ni	TE	1-1241418-3 (>4.0-6.0mm²)			
BLIND PIN FOR MCON 1.2 CB CONTACT CAVITIES	BROWN	TE	1-1452424-1	NOT APPLICABLE	–	4-11, 15-44, 48-55
BLIND PLUG FOR MCP 2.8K CONTACT CAVITIES	NATURAL	TE	828922-1	NOT APPLICABLE	–	2-3, 12-13, 46-47, 56-57
BLIND PLUG FOR MCP 6.3/4.8K CONTACT CAVITIES	TRANSPARENT	TE	967652-1	NOT APPLICABLE	–	1, 14, 45, 58
WIRE COVER	BLACK	TE	2208653-1	NOT APPLICABLE	TBD	NOT APPLICABLE

2 CONNECTOR OPERATING INSTRUCTIONS

2.1 ASSEMBLY OF THE CONNECTOR

1. **FEMALE HOUSING**
2. **SLIDER RIGHT**
3. **SLIDER LEFT**
4. **RETAINER (TPA)**
5. **PERIPHERAL SEAL**
6. **MAT SEAL**
7. **MAT SEAL COVER**
8. **CAVITY BLOCK**
9. **CAVITY BLOCK INSERT**

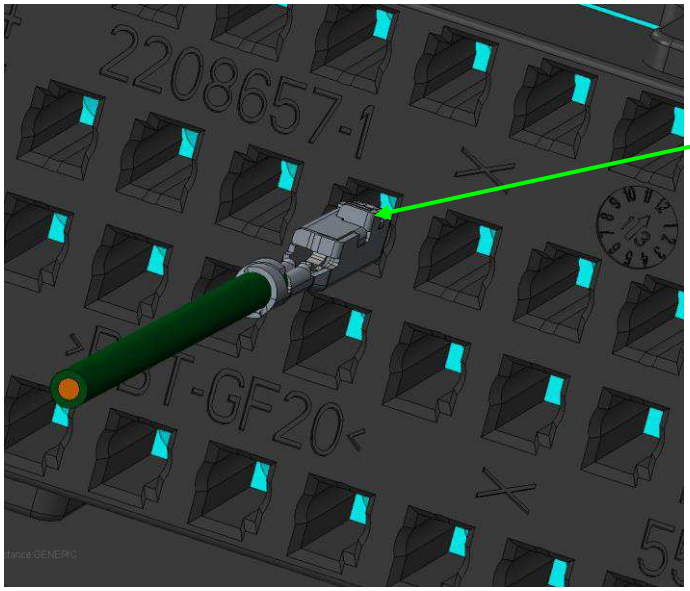


2.2 TERMINAL INSERTION / REMOVAL INSTRUCTIONS

2.2.1 TERMINAL INSERTION

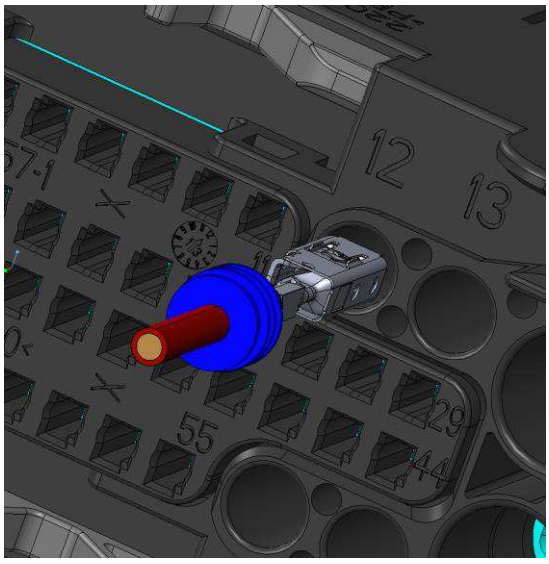
MCON 1.2 CB

INSERT TERMINALS STRAIGHT IN CAVITIES UNTIL “CLICK”.



AMP MCP 2.8K

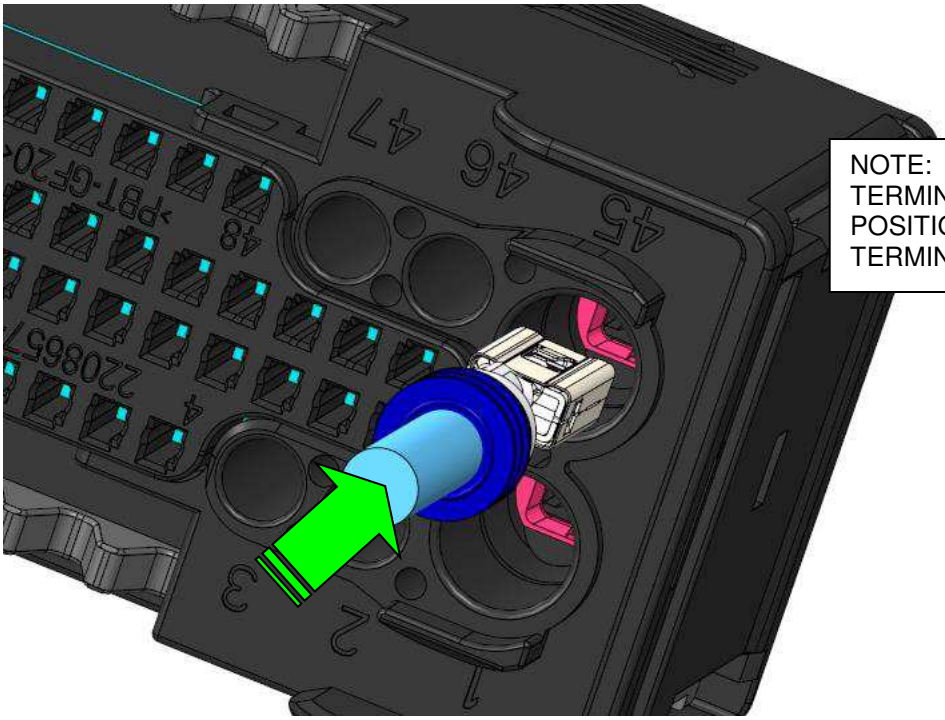
INSERT TERMINALS STRAIGHT IN CAVITIES UNTIL “CLICK”.



NOTE:
TERMINAL INSERTION TO END-LOCK POSITION IS ONLY POSSIBLE WITH TERMINAL PARALLEL TO THE HOUSING

AMP MCP 6.3/4.8K

INSERT TERMINALS STRAIGHT IN CAVITIES UNTIL “CLICK”.

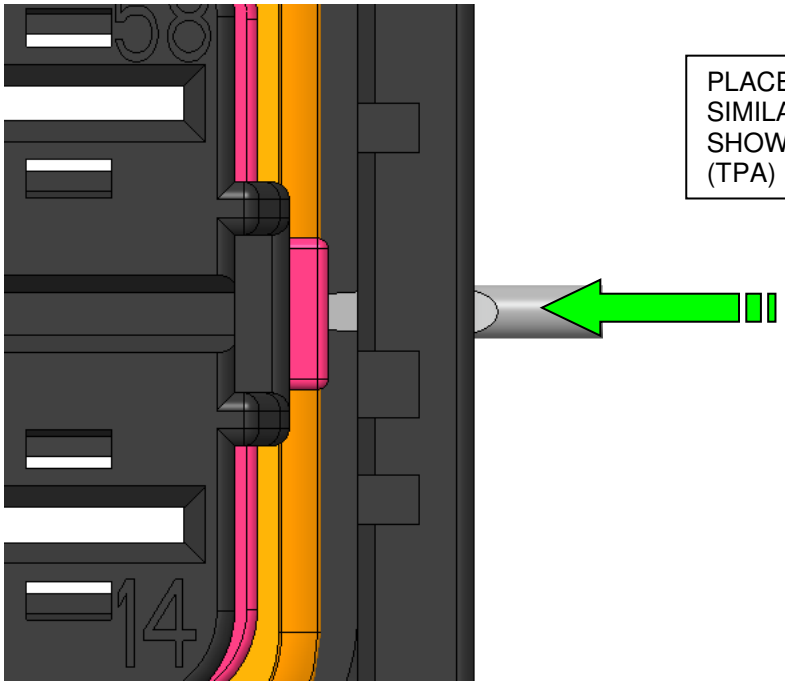


NO TERMINAL ORIENTATION FEATURE

NOTE:
TERMINAL INSERTION TO END-LOCK POSITION IS ONLY POSSIBLE WITH TERMINAL PARALLEL TO THE HOUSING

NOTE: AFTER TERMINAL INSERTION OPERATION THE SPACER (TPA) MUST BE MOVED FROM PRE-LOCK POSITION TO FULLY ENGAGED POSITION.

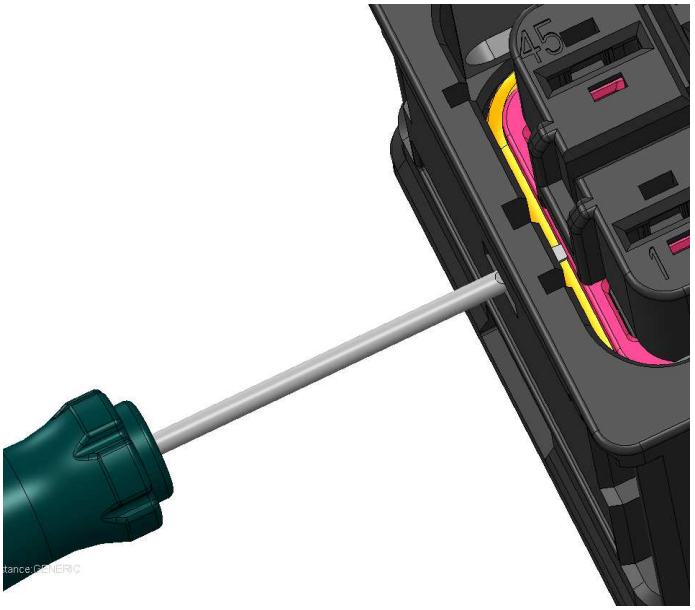
2.2.2 RETAINER (TPA) MOVING TO END-LOCK POSITION



PLACE A SCREWDRIVER OR SIMILAR TOOL INTO THE SLOT AS SHOWN AND PUSH THE RETAINER (TPA) INTO END-LOCK POSITION

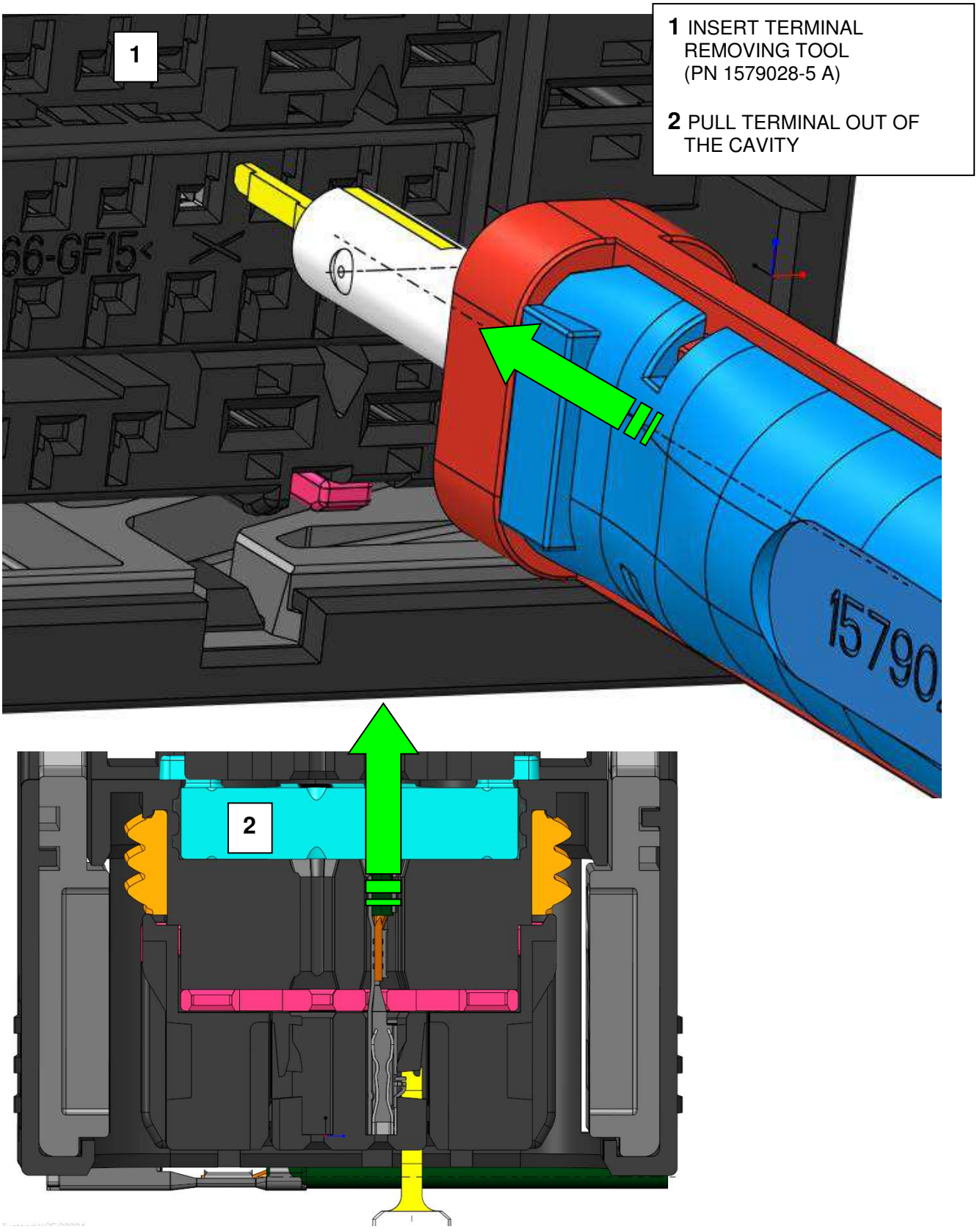
2.2.2 RETAINER (TPA) MOVING TO PRE-LOCK POSITION

PLACE A SCREWDRIVER OR SIMILAR TOOL INTO THE SLOT ON THE OPPOSITE HOUSING WALL AS SHOWN AND PUSH THE RETAINER (TPA) INTO PRE-LOCK POSITION



2.2.3 TERMINAL EXTRACTION –MCON 1.2 CB

NOTE: RETAINER (TPA) MUST BE BROUGHT INTO PRE-LOCK POSITION BEFORE TERMINAL REMOVAL OPERATIONS!

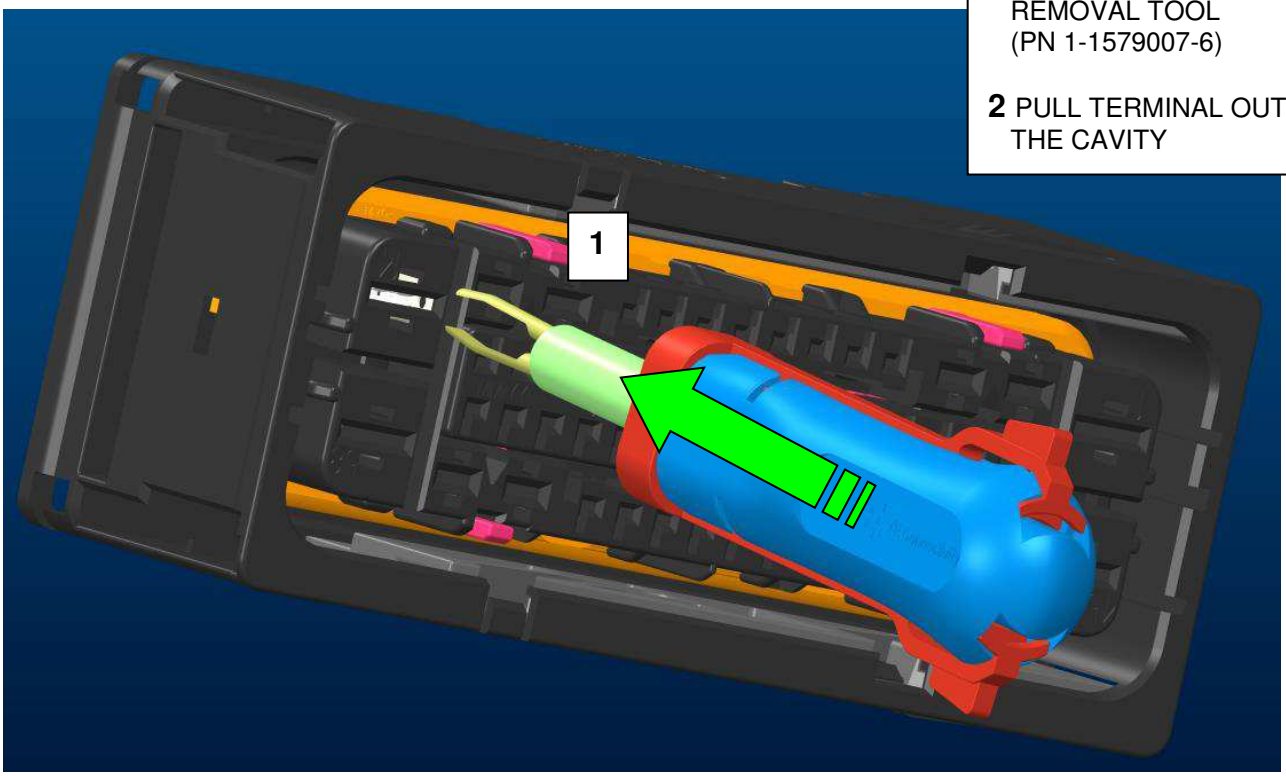


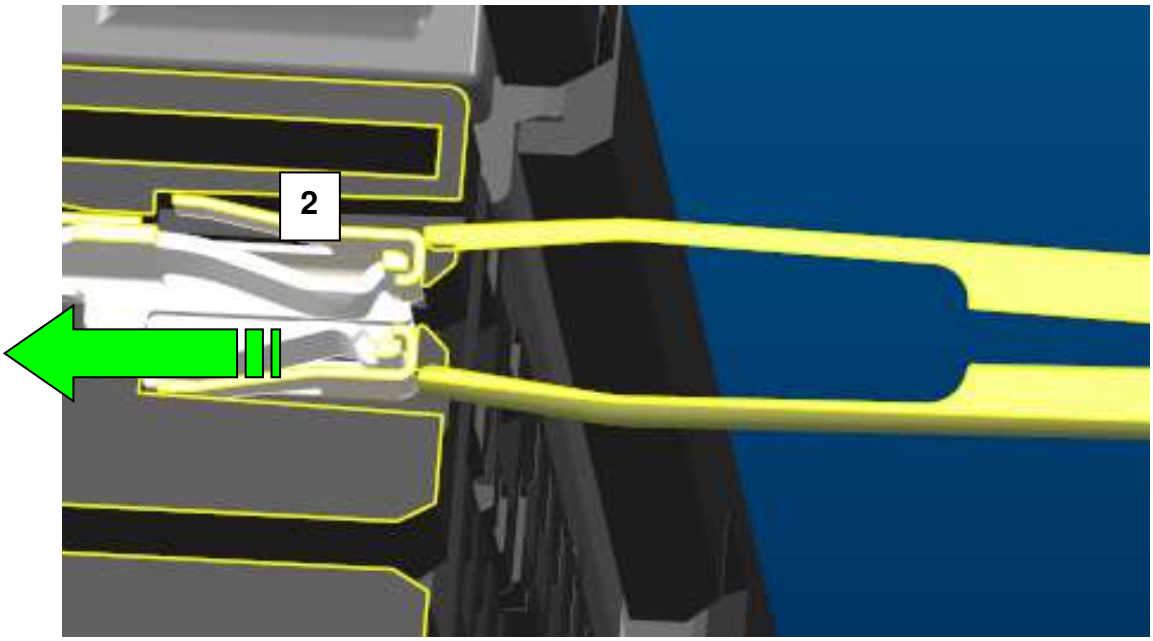
2.2.4 TERMINAL EXTRACTION – MCP 2.8K AND 6.3/4.8K

NOTE: RETAINER (TPA) MUST BE BROUGHT INTO PRE-LOCK POSITION BEFORE TERMINAL REMOVAL OPERATIONS!

1 INSERT TERMINAL REMOVAL TOOL (PN 1-1579007-6)

2 PULL TERMINAL OUT OF THE CAVITY



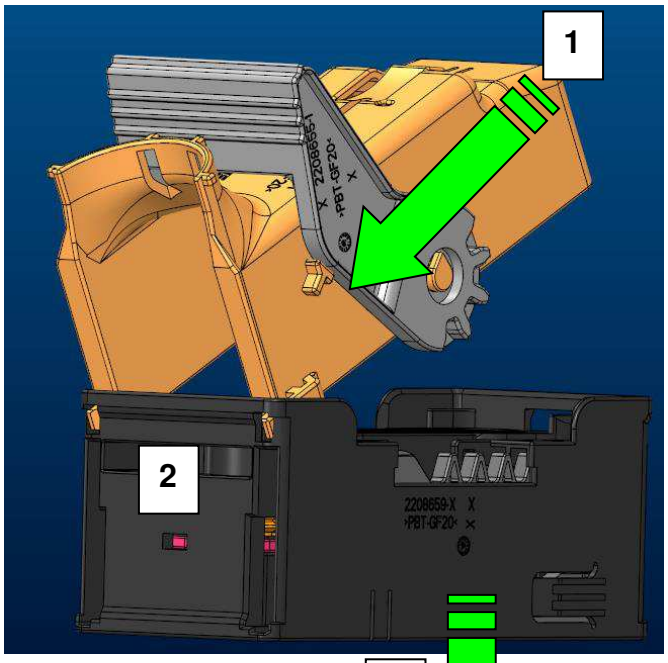


2.3 WIRE OUTER DIAMETER REQUIREMENTS FOR SEALING (MAT SEAL)

PLEASE SEE CUSTOMER DRAWING

2.4 COVER MOUNTING / REMOVAL INSTRUCTIONS FOR CABLE EXIT 180°/90°

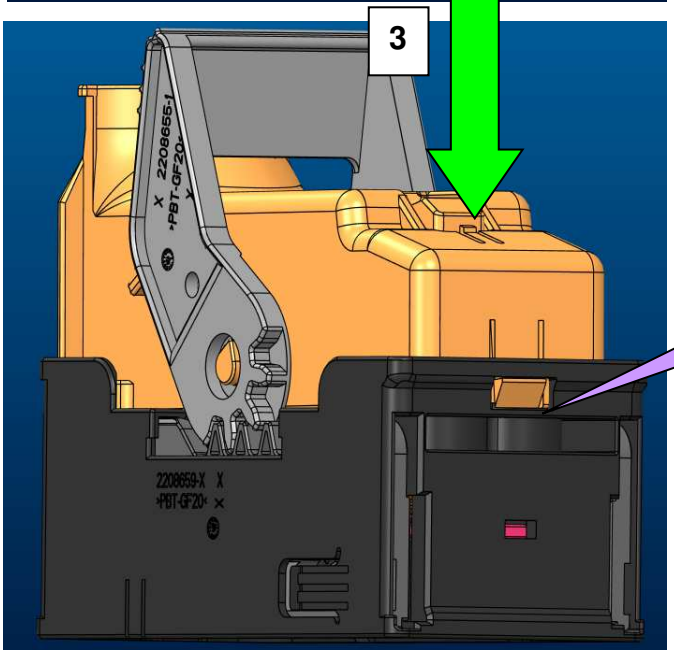
2.4.1 COVER MOUNTING



1 POSITION COVER LIKE SHOWN IN THE PICTURE

2 INSERT HOOKS INTO THE TWO GAPS

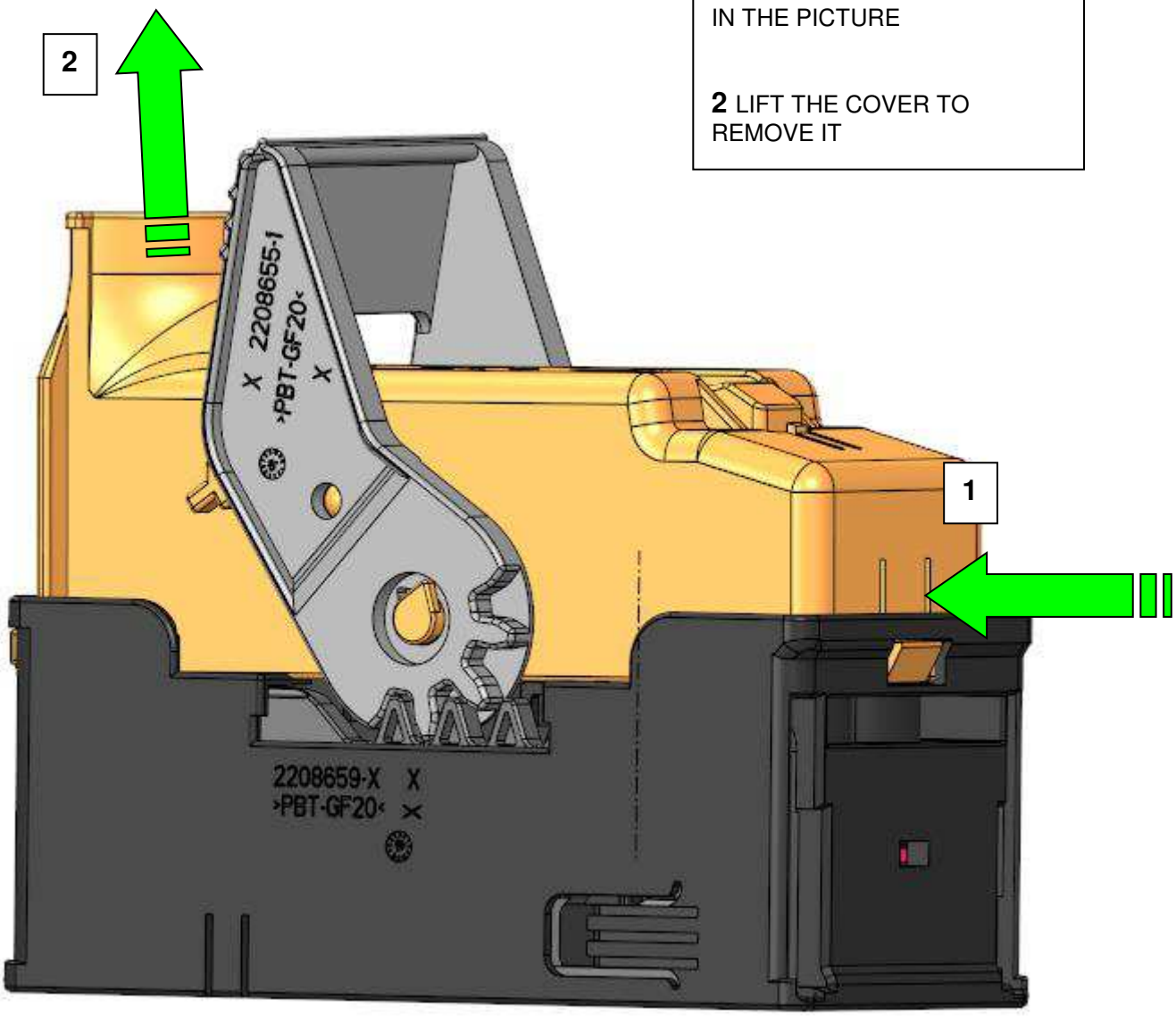
3 PRESS DOWN THE COVER UNTIL THE LATCH SNAPS INTO THE WINDOW



2.4.2 COVER REMOVAL

1 PRESS HOOK LIKE SHOWN IN THE PICTURE

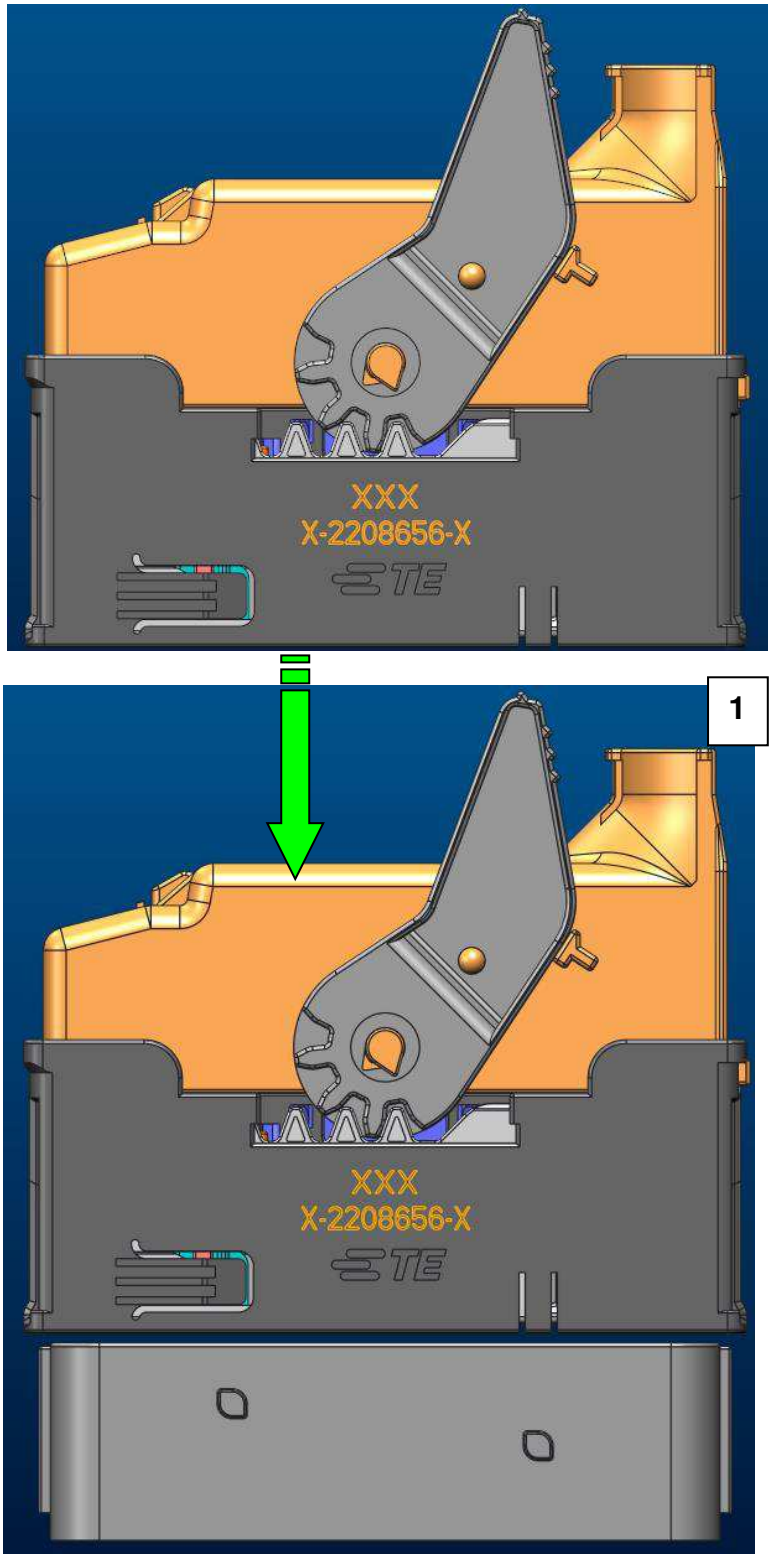
2 LIFT THE COVER TO REMOVE IT



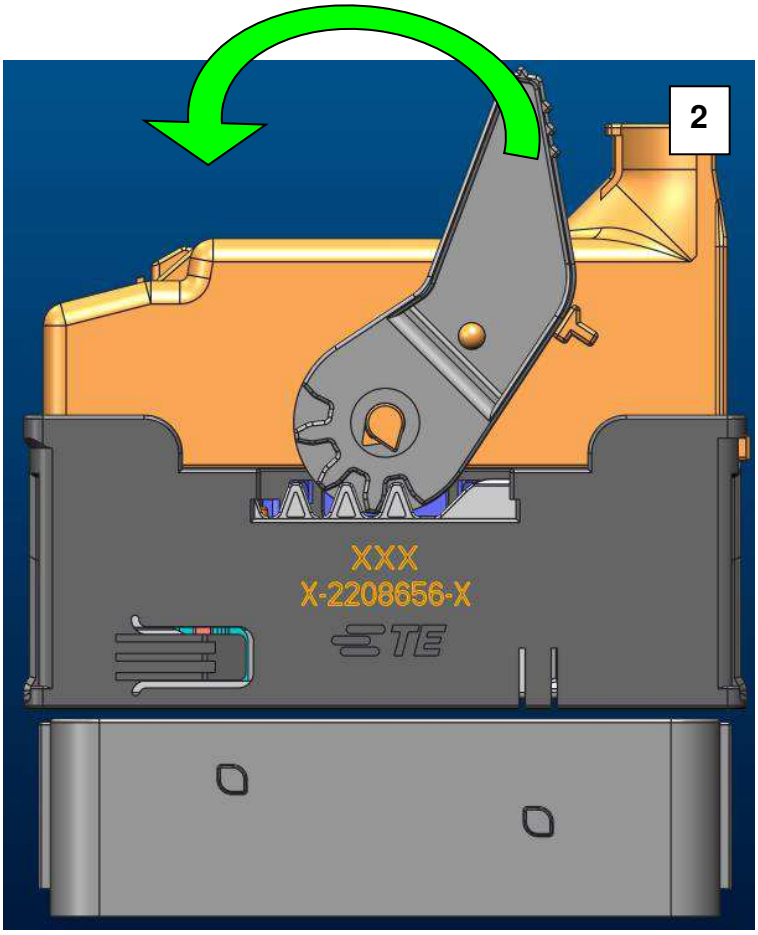
3 CONNECTOR MATING / UNMATING OPERATIONS

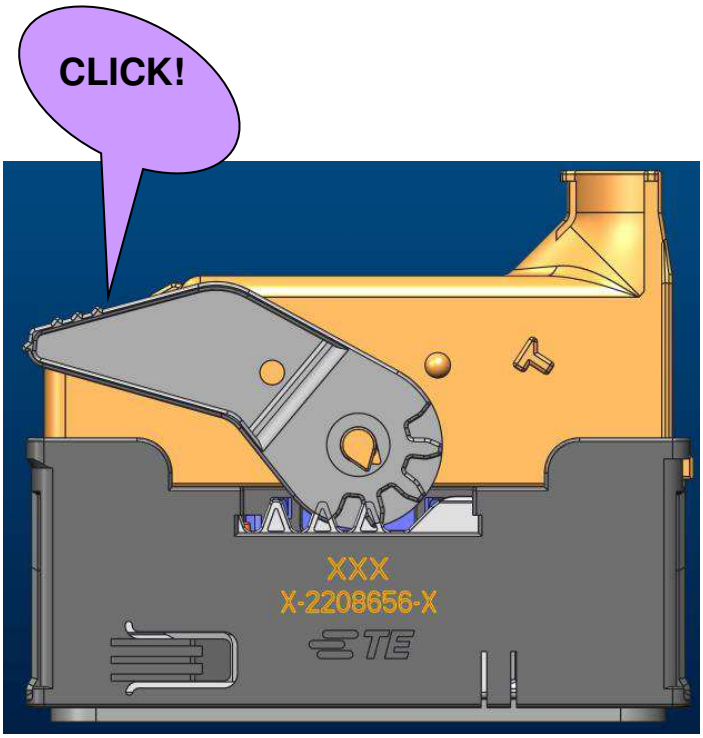
3.1 CONNECTOR MATING

NOTE: BEFORE MATING THE CONNECTOR MAKE SURE THAT THE LEVER IS AT PRE-LOCK POSITION



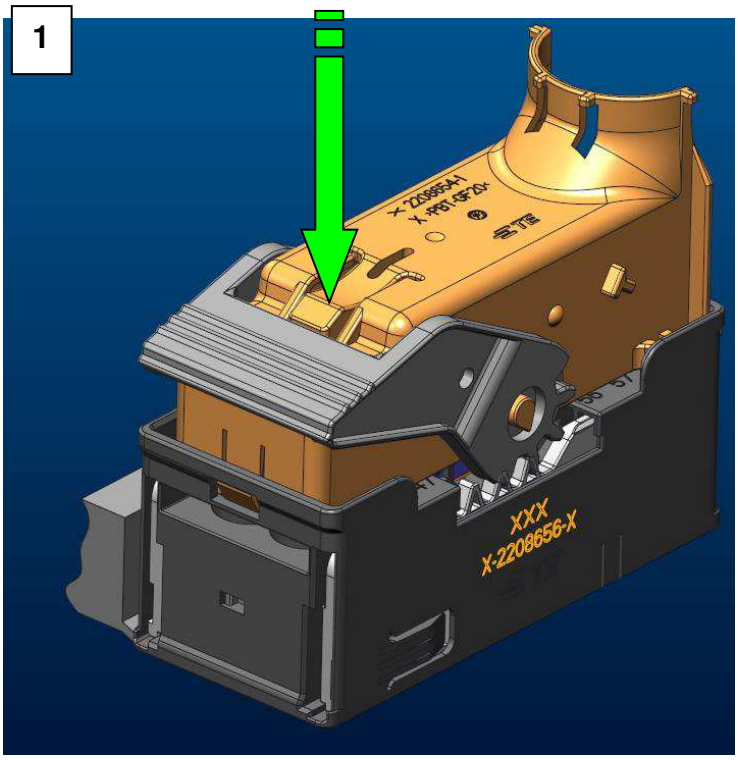
1. **MATE FEMALE CONNECTOR AND INTERFACE UNTIL THE FORCE INCREASES SUBSTANTIALLY**
2. **TURN THE LEVER AROUND UNTIL "CLICK"**

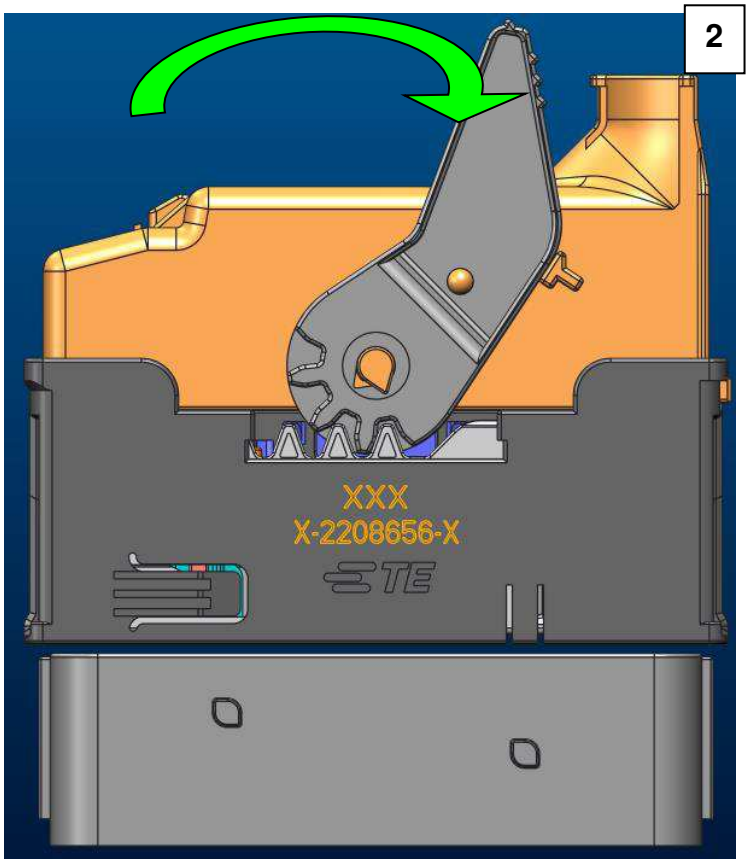

2
XXX
X-2208656-X
TE


CLICK!
XXX
X-2208656-X
TE

3.2 CONNECTOR UNMATING

1. **PUSH DOWN THE LEVER LOCKING LATCH UNTIL THE LEVER IS RELEASED.**
2. **TURN THE LEVER AROUND TO ITS "PRE-LOCK" POSITION**





4 PRECONISATION DE STOCKAGE, DE MANIPULATION ET DE RECONDITIONNEMENT
RECOMMENDATIONS FOR STORAGE, HANDLING AND REPACKAGING

A. Stocker dans des lieux bien aérés où la température et l'humidité relative restent dans les limites suivantes : +5° à +50°C ; 30% à 75% HR
Store in a well ventilated environment with the following relative temperature and humidity range: +5° to +50°C ; 30% to 75% HR.

B. Stocker sans contact avec le sol, sur palette ou plate-forme, sur surface sèche et propre jusqu'à ce que les emballages soient récupérés pour mise en production.
Store above the ground, on a pallet or platform, a clean dry surface until the packages are retrieved for production.

C. Stocker les emballages à l'abri des précipitations d'eau et de l'influence directe des UV.
Store packages away from water and direct UV rays.

D. Stocker les emballages à l'abri des sources de chaleur et des zones subissant des fortes variations de températures.
Store packages away from heat and areas with high temperature variations.

E. Stocker à l'abri des variations rapides de température ou d'hygrométrie pour éviter la condensation à l'intérieur des emballages.
Keep away from high temperature or hygrometry variations to avoid condensation inside the packages.

F. Stocker les emballages à l'abri de la poussière pour maintenir les composants propres.
Store packages away from dust to keep the components clean.

G. Conserver les emballages dans l'état de réception, sans défaire le ruban adhésif jusqu'à utilisation.
Keep packages as they are delivered, without undoing the adhesive ribbon until use.

H. Reconditionner les emballages après prélèvement partiel dans ceux-ci.
Wrap up packages after partial sampling.

I. Ne pas marcher et ne pas poser d'objets lourds sur les emballages.
Do not walk or place heavy objects on packages.

J. Les emballages reçus, doivent être traités sur la base du first-in, first-out (FIFO).
Packages received should be treated on the basis of first-in, first out (FIFO).

K. Lorsque les emballages sont stockés en racks, placer les cartons les plus lourds en dessous, les plus légers sur le dessus afin de ne pas abimer les pièces.
Where packages are stored in racks, place the heavier cartons below and the lighter ones above not to damage the parts.

L. Une période (≈24 heures) d'équilibrage thermique est nécessaire avant câblage des connecteurs.
A 24 hour thermal balancing period is needed before wiring connectors.

5 TEST DE CONFORMITE ELECTRIQUE */ ELECTRICAL TEST CONTROL*

DEFINITION DES DEFAUTS POTENTIELS */ DEFINING POTENTIAL FAULTS*

A. Mauvais adressage du contact dans le boitier */ Poorly addressed contact in the housing*
Le contact est correctement inséré et encliqueté mais pas dans la bonne alvéole.
The contact is correctly inserted and locked but not in the right cavity.

B. Erreur d'association */ Association Error*
Tentative d'insertion d'un clip dans un boitier porte-languettes, ou inversement.
Tentative insertion of a receptacle in the Tab housing, or vice versa

C. Absence d'encliquetage / *No locking*
Le contact n'est pas verrouillé dans le boitier.
The contact is NOT locked in the housing.

D. Mauvaise orientation du contact */ Poor orientation of the contact*
L'orientation du contact est à 90° autour de l'axe longitudinal d'insertion du contact.
The *contact is oriented at 90° around the insertion longitudinal axis of the contact.*

E. Défauts de verrou secondaire */ Faults with the secondary locking device*
Le Double Verrouillage n'est pas correctement fermé.
The secondary locking device is not properly closed

CONTROLE ET MOYENS PRECONISES

Adressage */ Addressing*
Contrôle = continuité électrique
Test = electricity continuity

F. Erreur d'association */ Association error*
Détection visuelle évidente - Détection par contrôle électrique
Obvious visual detection - Detection by electrical test

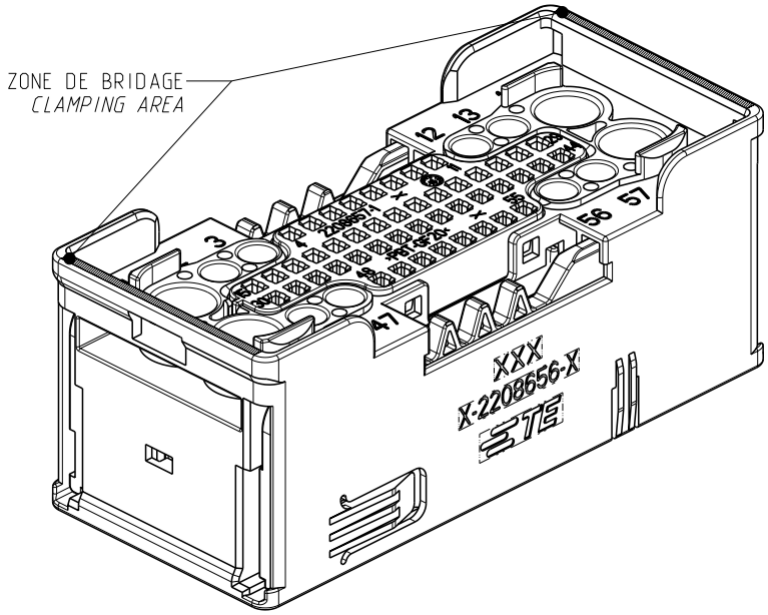
G. Encliquetage */ Terminals locking*
Si un ou plusieurs contacts sont mal insérés, la fermeture du Double Verrouillage est impossible avec un effort inférieur à 30N.
Si le Double Verrouillage est actionné mais un des contacts mal inséré (clip ou languette reculé par rapport à la position encliquetée), la contrepartie de test électrique détectera l'absence de contact électrique.
Si un contact a été inséré après l'activation du Double Verrouillage, la contrepartie de test doit pouvoir détecter l'absence de contact électrique.
If one or more contacts are not well inserted, the secondary locking device cannot be closed with stress of less than 30N.
If the secondary locking device is activated but the contacts are not well inserted (retracted receptacle or tab from the locked position), the electrical test will detect the absence of an electrical contact.
If a contact was inserted after the activation of the secondary locking device, the electrical test must be able to detect the absence of an electrical contact.

H. Orientation */ Orientation*
L'orientation à 90° est impossible, le cas échéant, impossibilité de fermer le Double Verrouillage.
A 90° orientation is not possible, in this case; it is impossible to close the secondary locking device

I. Double Verrouillage */ Secondary locking device*
- Fermeture automatique (recommandée) */ **Automatic Lock (preffered)***:
Détection au niveau de la course et de l'effort.
Detection at the level of stroke and stress.
- Fermeture manuelle */ **Manual closing*** :
Il est possible de contrôler l'encliquetage, lors du contrôle électrique. Si le double verrouillage n'est pas actionné, il sera impossible de brider le connecteur sur le dispositif de test électrique
It is possible to check locking during electrical testing. If the secondary locking device is not activated, the connector on the electrical test device cannot be clamped

ZONES D'APPUI (BRIDAGE) LORS DU TEST ELECTRIQUE
SUPPORT AREAS (CLAMPING) DURING ELECTRICAL TEST

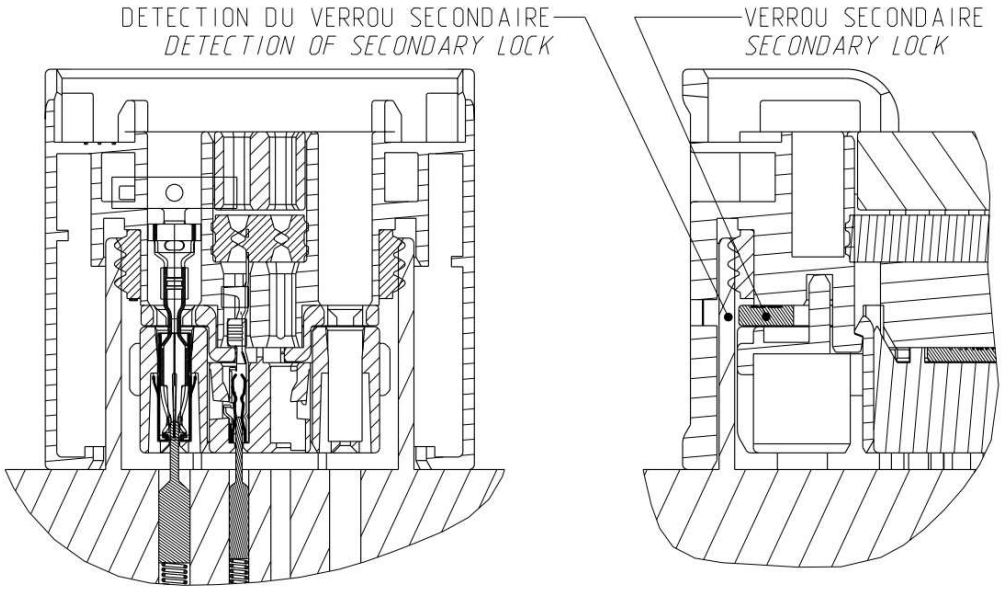
Porte-Clips */ Receptacle housing*



Porte-Clips avec zones de bridage à l'arrière */ Receptacle housing with clamping area at the back*

DETECTION DE LA FERMETURE DU DOUBLE VERROUILLAGE
DETECTING THE CLOSING OF THE SECONDARY LOCKING DEVICE

Porte-Clips */ Receptacle housing*



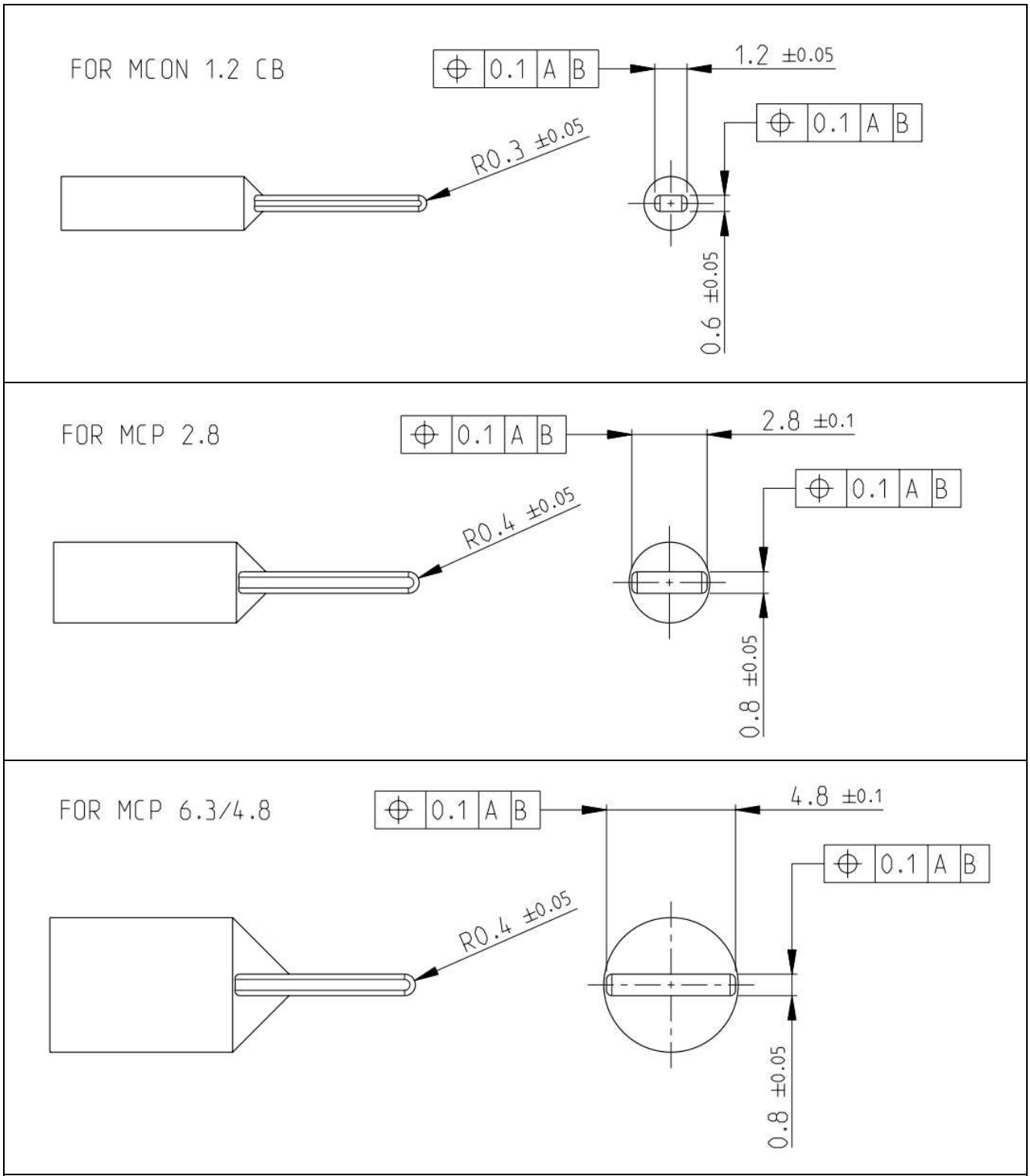
Porte-Clips avec DV correctement fermé
Receptacle housing with properly closed secondary locking device

DEFINITION DES POINTES DE TEST / *DEFINITION OF ELECTRICAL TEST POINTS*

CONTROLE ELECTRIQUE SIMPLE / *SIMPLE ELECTRICAL CHECKS*

Porte-Clips / ***Receptacle housing***

Schéma d'implantation / ***Layout***

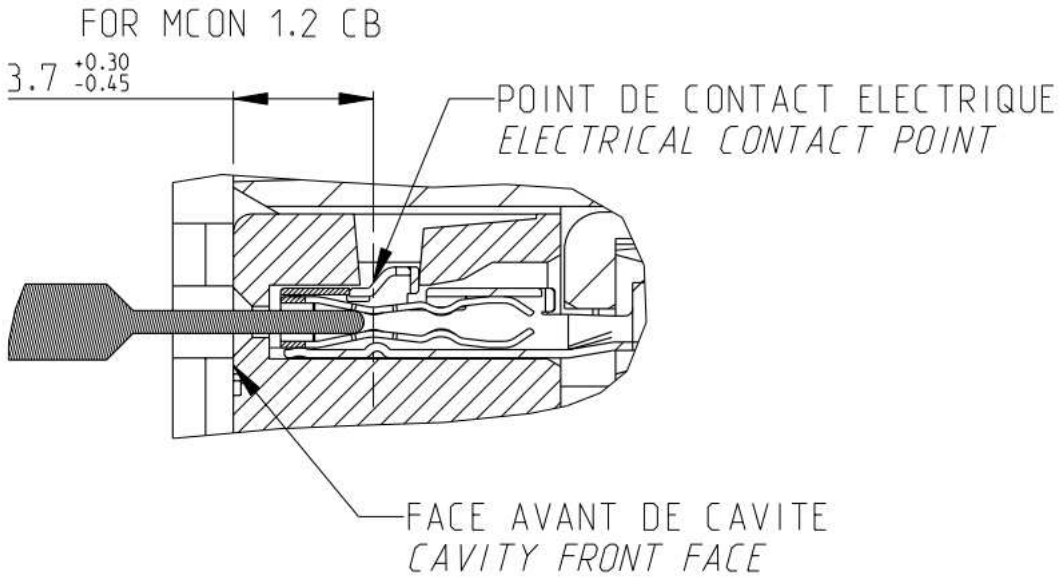


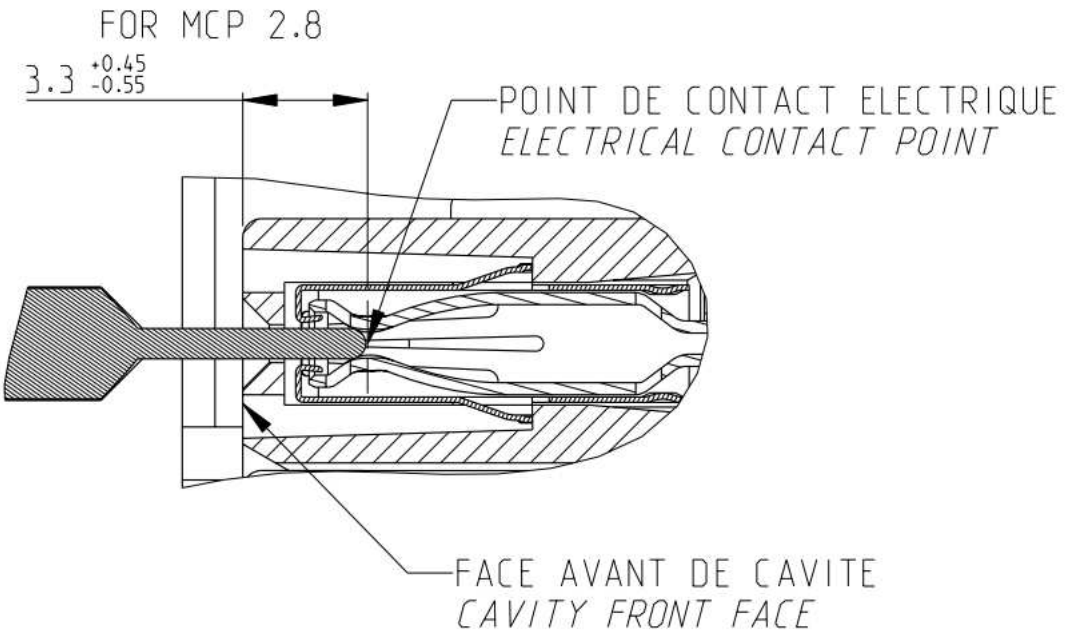
Définition des pointes de test pour contrôle Porte-Clips
Definition of test points for receptacle housings Checks

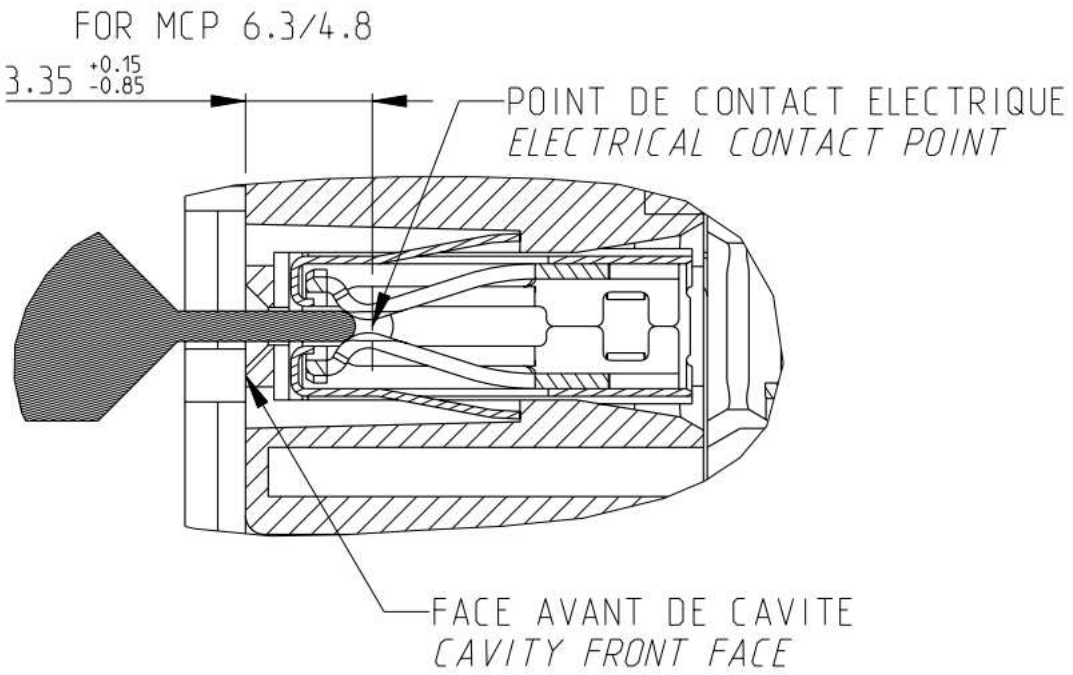
Course et tarage de la pointe de test

Stroke and calibration of test point

- Les touches de contrôle doivent avoir une course maxi de X mm par rapport à la face avant du module alvéole du porte-clips
  The control buttons should have a maxi stroke of X mm compared with the front face of the cavity holder of the receptacle housing
  MCON 1.2 CB = 4mm maximum
  MCP 2.8 = 3.75mm maximum
  MCP 6.3/4.8= 3.5mm maximum
- Effort Maxi sur le clip : 1.25±0.25N
  Maximum stress on the terminal : 1.25±0.25N



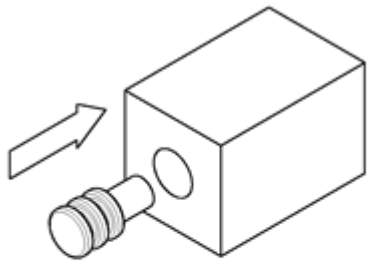


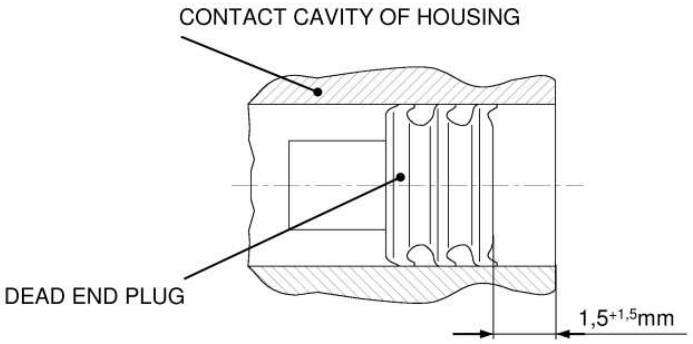


Détection de la position du clip (verrouillage primaire activé)
Detection of the receptacle position (primary locking activated)

6 ACCESOIRES */ ACCESSORIES*

BLIND PLUG FOR MCP 2.8 AND 6.3/4.8 CAVITY:





TAPING:

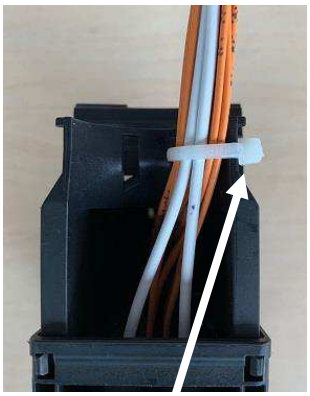
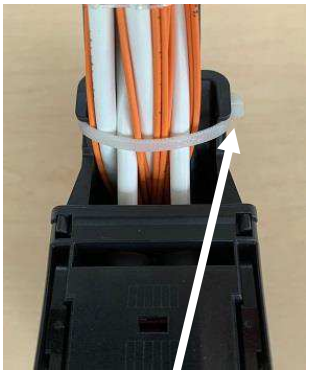
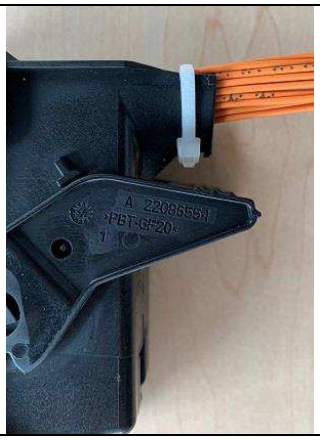
When taping the wires, do not start or finish near the housing, but leave a free distance of 40 mm minimum with the exit of the cover.

CABLE TIE:

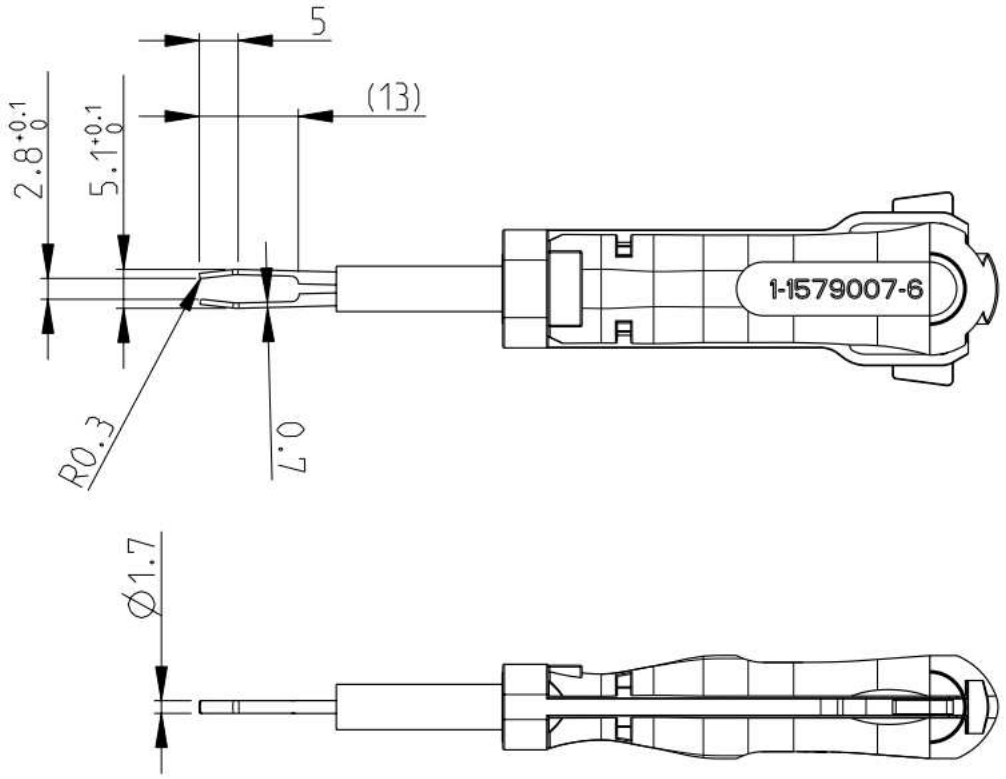
WIDTH = 4mm maximum
THICKNESS = 1.2mm maximum

PUT THE HEAD OF CABLE TIE ON LATERAL SIDE OF THE COVER.
DO NOT PUT THE HEAD OF CABLE TIE ON THE TOP OF COVER, TO AVOID ANY MECHANICAL INTERFERENCE.

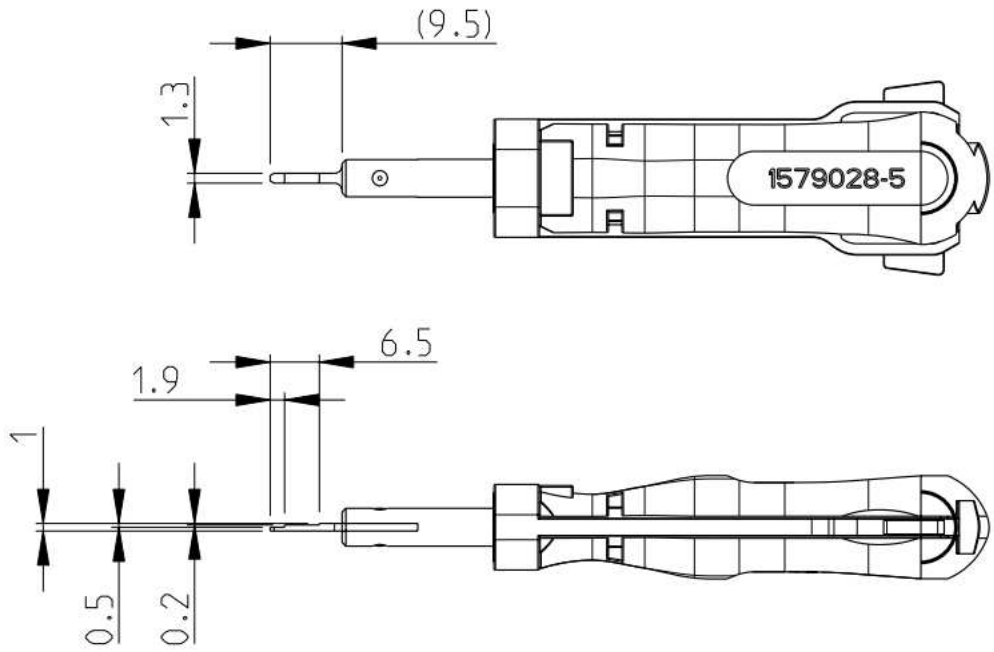
THE MAXIMAL DIAMETER FOR THE BUNDLE IS ∅27mm

For small diameter of wires bundle	For normal diameter of wires bundle
  position of head cable tie	  position of head cable tie
 	 

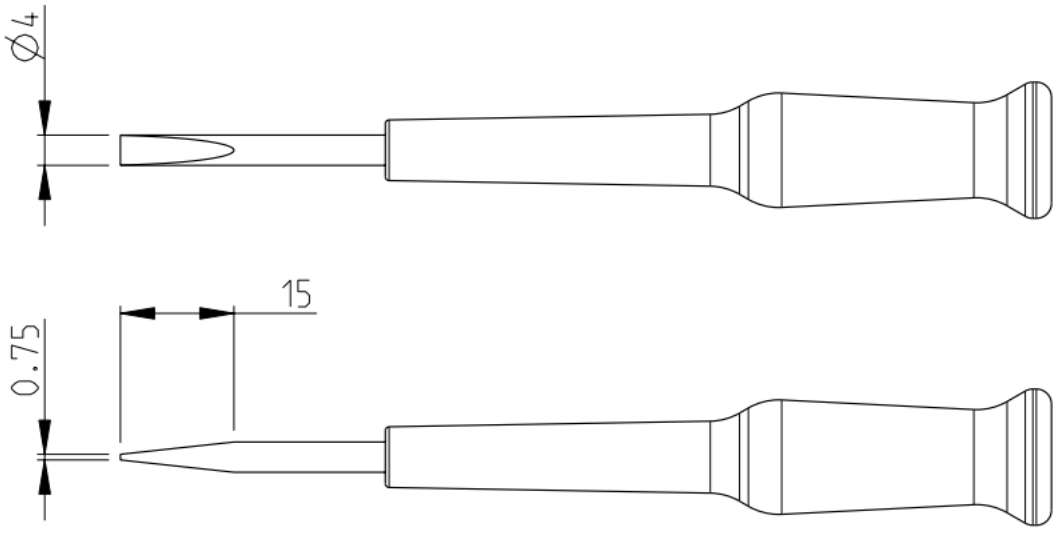
7 DEFINITION DES OUTILS */ HAND TOOLS DESIGN*



FOR MCP 2.8 AND 6.3/4.8 TERMINAL EXTRACTION TOOL
Unspecified tolerance = ±0.03mm



FOR MCON 1.2 CB TERMINAL EXTRACTION TOOL
Unspecified tolerance = ±0.03mm



FOR TPA MOVING
Unspecified tolerance = ±0.03mm