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**050/110 HYB ECU 119P Connector**

# Instruction Sheet

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## 1. Part Name and Part Number

### 1.1 Housing





Part Number	Part Name
 2321359-1, 1-2321359-1 2321359-2, 1-2321359-2 2321359-4, 1-2321359-7 2321359-5, 1-2321359-6	119P PLUG ASSEMBLY
2321366-2 1-2321366-2 2-2321366-2 3-2321366-2 4-2321366-2 5-2321366-2	COVER ASSEMBLY
 2219498-2 2109258-4 1-1452424-1	Cavity Plug for MQS (Wire size: 0.3 ~ 0.75 mm <sup>2</sup> )
 1-2109258-8 1-1452424-2	Cavity Plug for MQS (Wire size: 0.75, 1.0 ~ 1.25 mm <sup>2</sup> )
 828922-1	Cavity Plug for MCP

Fig. 1

### 1.2 Contact

#### 1.2.1 Rec Contacts

Part Number	Part Name	Applicable Wire Range
2005544-1 (1534594-1)	.050 (MCON)	0.3 ~ 0.35 mm <sup>2</sup>
2005545-1 (1670144-1)		0.5 ~ 0.75 mm <sup>2</sup>
2005546-1 (1452503-1)		1.0 ~ 1.25 mm <sup>2</sup>
1241394-1	.110 (MCP)	0.5 ~ 1.0 mm <sup>2</sup>
1241396-1		1.0 ~ 2.5 mm <sup>2</sup>

Fig. 2

1.3 Component View

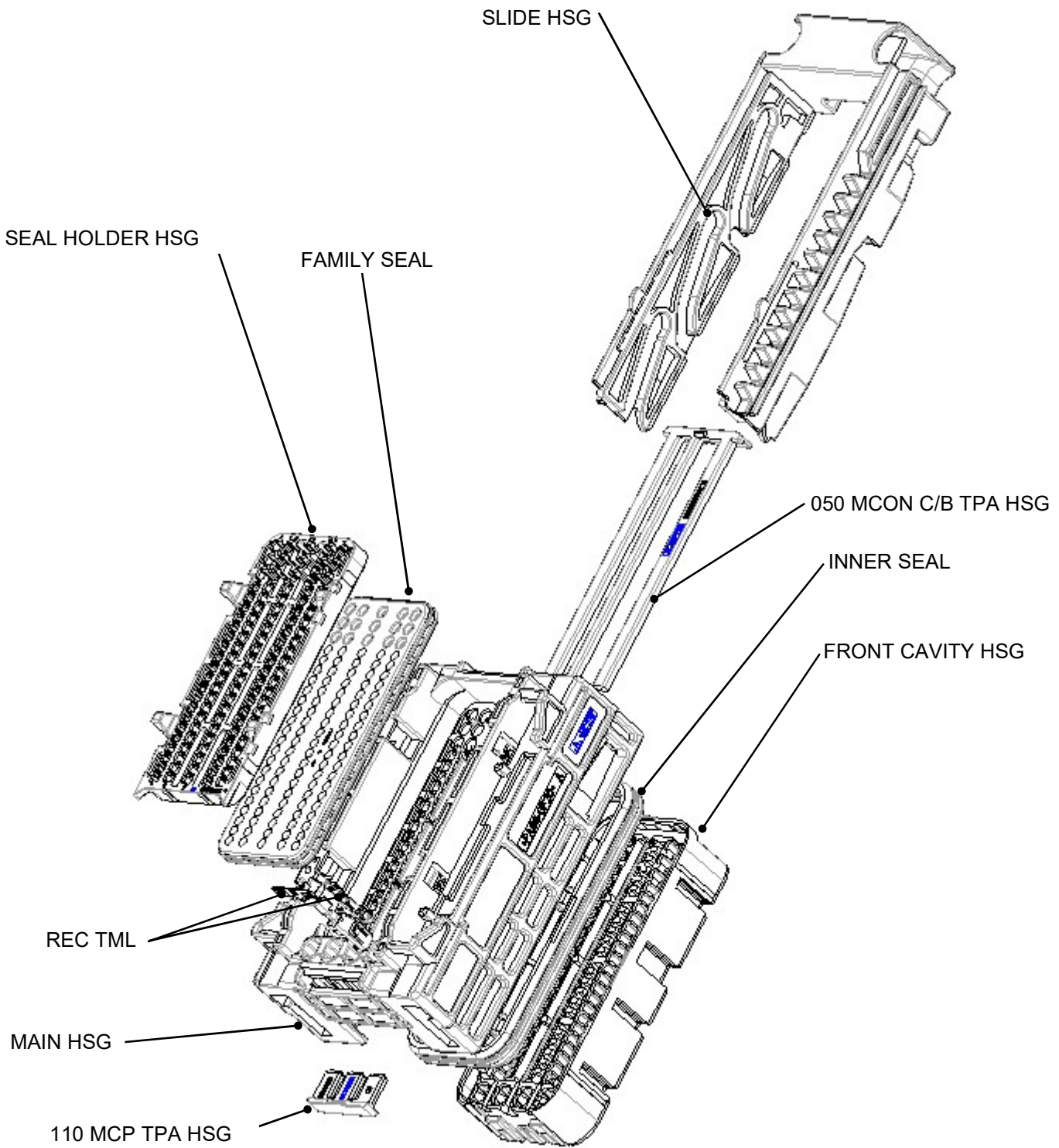


Fig. 3

## 2. Customer receiving inspection

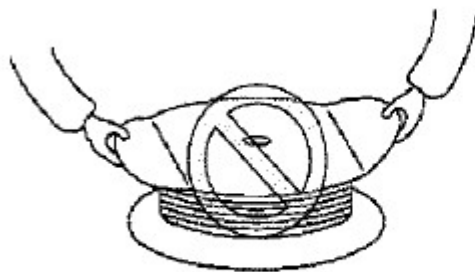
Tyco conducts inspections according to their quality regulations to maintain an over all lot control. In addition, the customers should conduct receiving inspections based on the specific customer drawing.

## 3. Storage and Carrying

### 3.1 TML

(1) Avoid receiving or carrying the TML reel in an open area without wrapping it in proper material.

(2) Do not lift and carry the TML by gripping one side or the reel, this may occur damage on the reel and TML before use.



Do not lift up laterally holding one side only.



Acceptable

Fig. 4

(3) Avoid storing the TML reel in a moist or dusty place. TML should keep dry and clean place(5~34 ° C, 45~85%RH) away from direct sunlight

(4) When removing the TML reel from the machine, fasten the end of the TML strip onto the edge for the reel with use of proper string or wire. (Fig. 5)

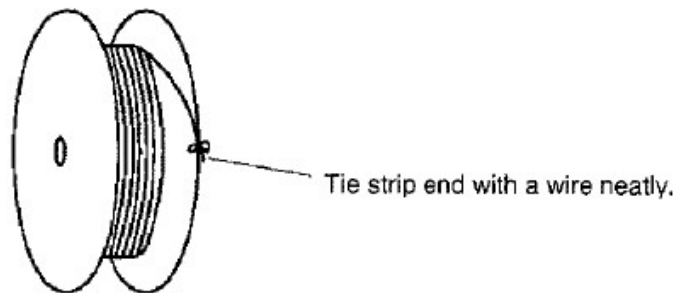


Fig. 5

3.2 Housing

- (1) Avoid leaving or carrying the housing in an open area without wrapping it in proper material.
- (2) Do not drop or shock the housing when carrying it.

**4. CRIMPING OPERATION**

4.1 Wire

4.1.1 Applicable Wire  
See Fig.2.

4.1.2 Notes for end of Stripping Wire  
Wire end must be stripped without cut or damage of wire strands

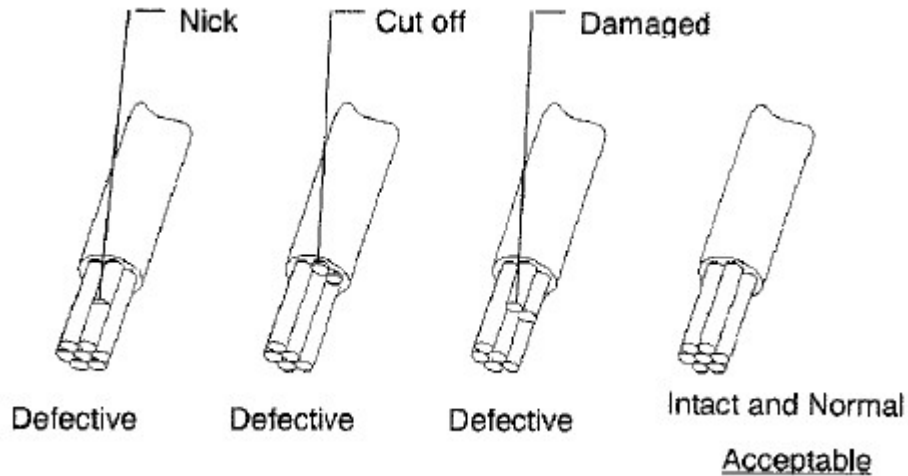


Fig. 6

4.2 Crimping Specification  
See following application specification for the TML.

050 MCON C/B	114- 18464
110 MCP	114- 18387

#### 4.3 Storage and Handling of Crimping Products

- (1) Store the products in a clean, dry area cover with proper sheet or paper when placed in an open area until next day.
- (2) Care should be taken for tangle and deform of TML in case of the leads should be in bands.
- (3) Do not stack the products so many layers, It makes electrical connection defective and low contact retention force by catch together or by deform causing the weight of themselves.
- (4) Must no hit tip of the TML to coordinate the bundle, It makes mating or electrical defective..

### 5. HARNESS ASSEMBLY

#### 5.1 Instruction of assembly Female TML to Plug Assembly

- (1) Insert contacts into the each specific cavity with proper contact direction as shown in Fig. 7. When contact is latched and the insertion is stopped, operation is complete  
When inserting contact, if getting obstructed feeling while when inserting terminal, do rolling TML or Front Cavity from side to side.

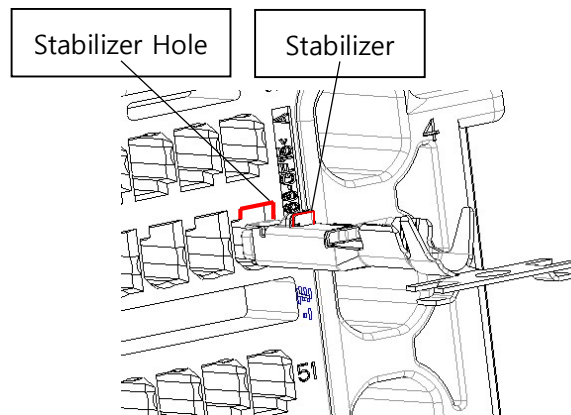


Fig. 7

**NOTE:** Check the stabilizer hole and TML's stabilizer when inserting TML  
If operator strongly handled Front Cavity, it makes inserting problem that floating interruption.

- (2) Insert contacts into each specific cavity, ignore horizontal contact direction as shown Fig. 8  
When contact is latched and the insertion is stopped, operation is complete  
When inserting contact, if getting obstructed feeling while inserting terminal, do rolling TML or Front Cavity from side to side.

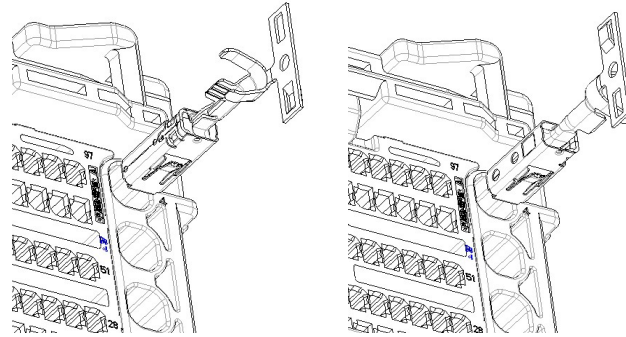
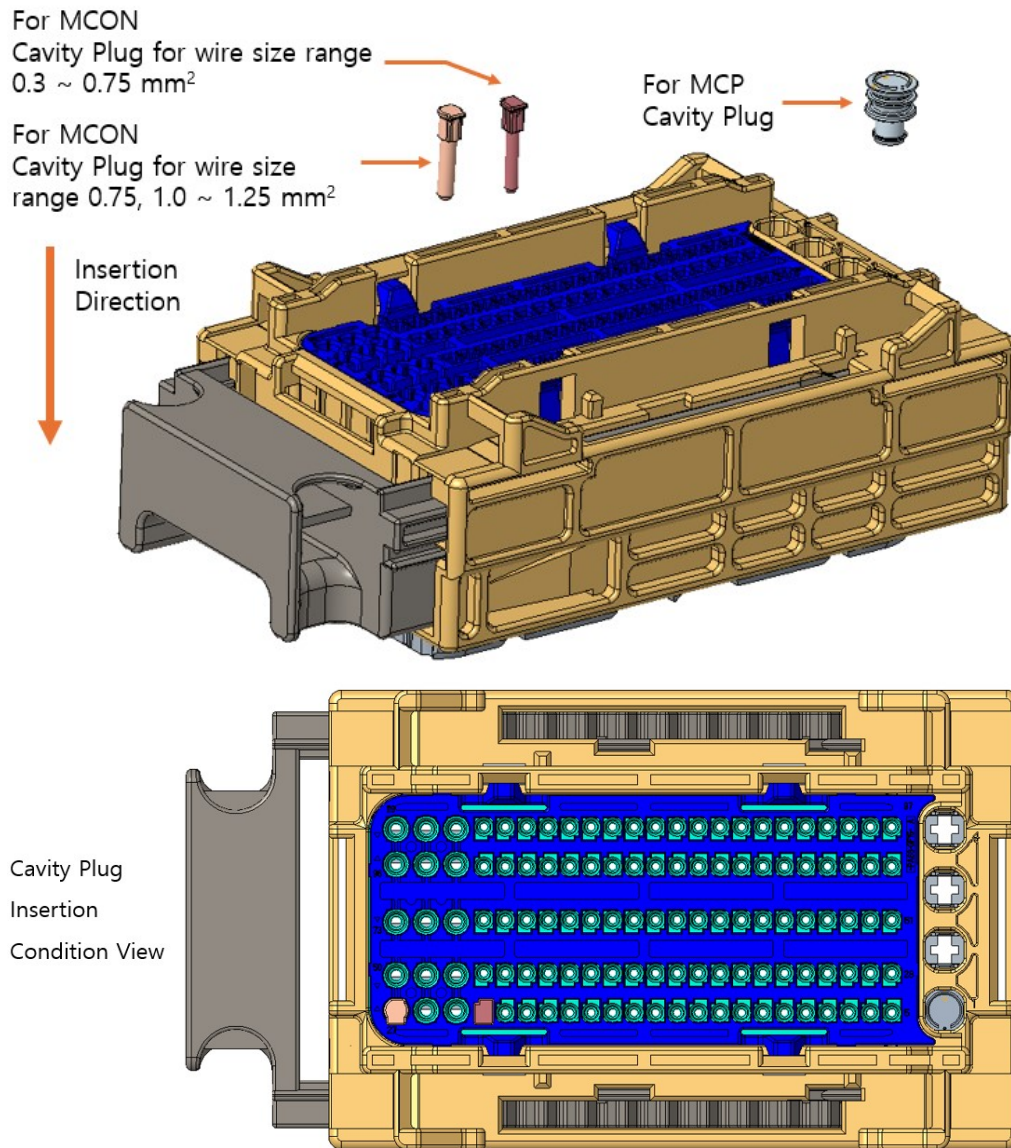


Fig. 8

**NOTE:** Attention the vertical inserting direction. Follow the as shown Fig. 8 inserting direction.  
If operator strongly handled Front Cavity, it makes inserting problem that floating interruption

**B** 5.2 Cavity Plug Insertion into Housing

Cavity Plug is required to be inserted into vacant Cavity to maintain sealing capability.





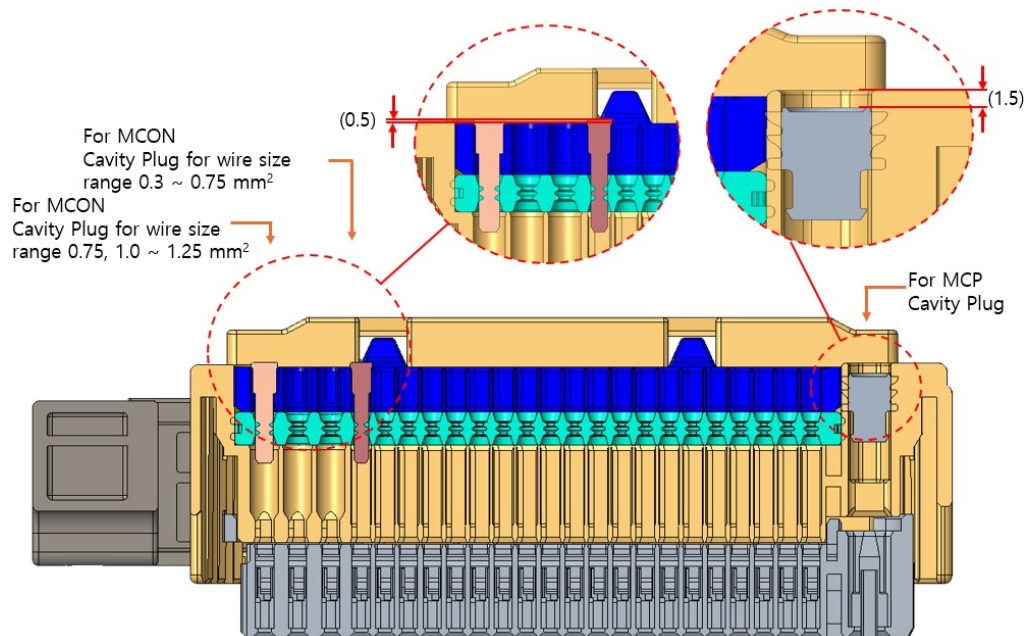


Fig. 9

- MCON Cavity Plug

In case of 1-2109258-8, insert vertically into Housing until Cavity plug is stopped about 0.8 mm above surface of the cavity.

In case of 2219498-2, fully insert into the cavity so that Cavity Plug end is coincident with Housing end. So that, it is stopped about 4.6 mm above surface of the cavity.

In case of 219258-4, 1-1452424-1, 1-1452424-2, insert vertically into Housing until Cavity plug is stopped about 0.5 mm above surface of the cavity as shown Fig. 9

- MCP Cavity Plug

Insert vertically into Housing until Cavity plug is stopped about 1.5 mm below surface of the cavity as shown Fig. 9.

**NOTE:** Housing deformation or break occurs with insertion too strongly. The operation must be conducted carefully.

5.3 TPA Lock

(1) After all cavities are filled by Contacts properly, push TPA to outside direction in order to complete lock condition as shown in Fig. 10. Operation is completed when contact is latched and the insertion is stopped.

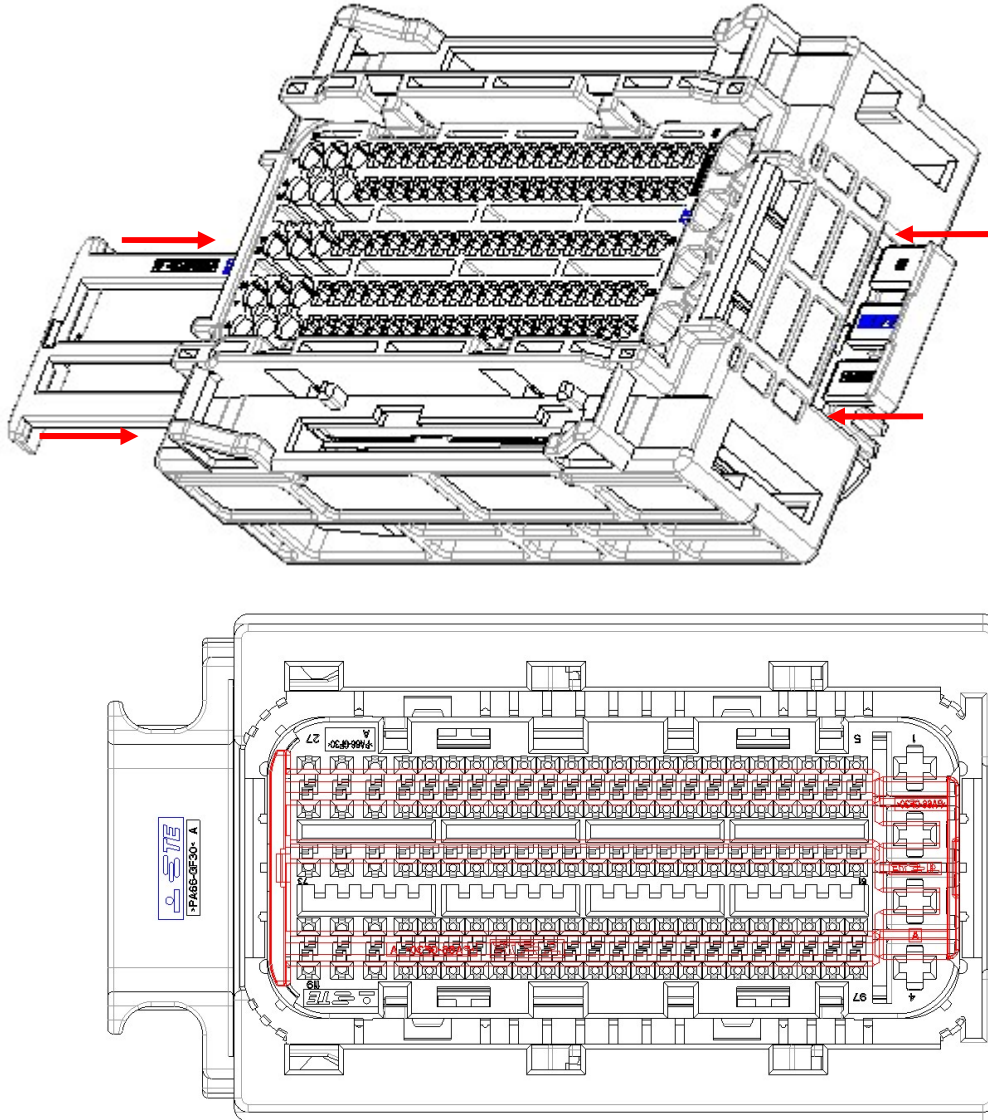


Fig. 10

**B** NOTE: Push both side of TPA to lock status. TPA and HSG has 0 mm

(2) When Retainer can not be inserted or only one side is inserted or it happened the gap between TPA and HSG, do not operate with force and must find half insertion contact. In case of those, extract TPA from HSG and complete inserting the contact in correct position

#### 5.4 TPA Unlock

When Female Contact extraction, TPA should be Unlock as shown Fig.3. Utilize the principles of the lever and fulcrum for TPA unlock.

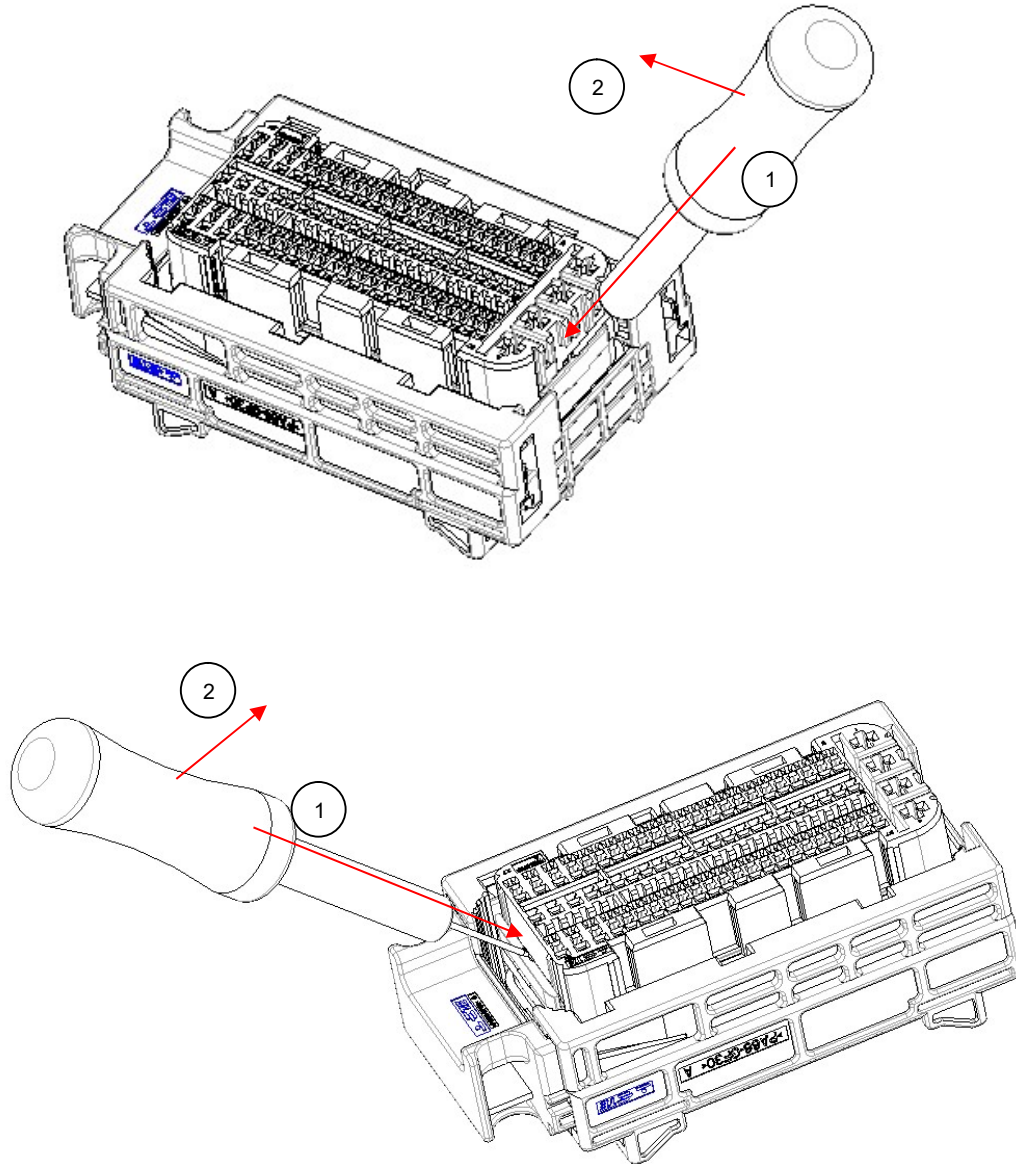


Fig. 11

#### 5.5 Instruction of Female Contact extraction

- (1) Confirm TPAs are in Lock condition. In case of Lock condition, it's necessary to move it to unlock condition. (See Par.5.4.). It's impossible to extract contacts on lock state.

(2) Extract the contact with specified tool inserted into proper hole until stopped at bottom end. (see Fig. 12) (It makes operation easier to press the contact to insertion direction once.)

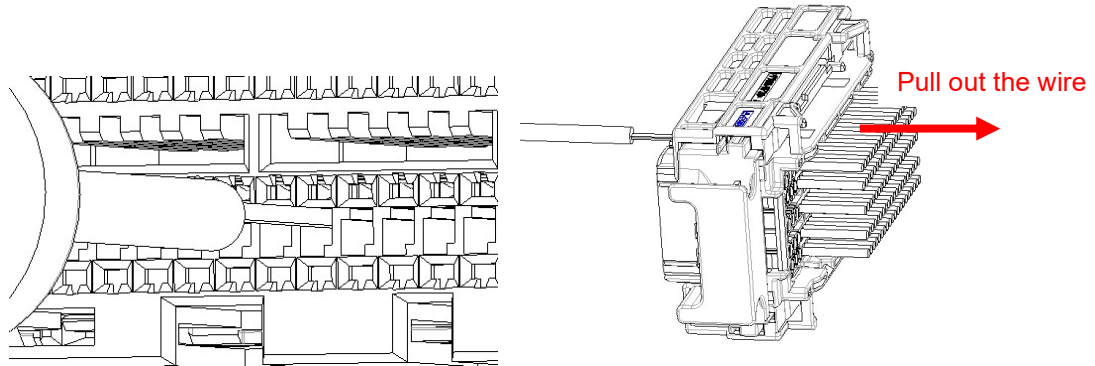


Fig. 12

**Note:** Do not insert the tool or screw driver into inside of the female contact.

Terminal	Extraction tool p/n	Remark
050 MCON C/B	8-1579008-4	
110 MCP	1-1579007-2	

## 5.6 Wire Harness Control

### 5.6.1 Handling

Do not apply too much force or shock against connector or harness.

### 5.6.2 Wire tie up and taping

Wires are tied up at apart from 30mm more from the end of connector. The operation be conducted carefully so that too much force is applied against the wires.

### 5.6.3 Conductivity Check

1) Use applicable mating connector or equivalent for conductivity check jig. Confirm Lever is in final lock condition.

(2) Check probe pin must not be inserted inside of female contact.

**NOTE:** Contact must be replaced in case of the prove pin insertion.

### 5.6.4 Storage

Store the product dry and clean area. In addition, do not leave the product with exposed condition

### 5.6.5 Shipping and Carrying

Use Proper package which can prevent product from dust, rain, and etc. And handle carefully.

## 6. CONNECTOR MATING AND UNMATING OPERATION

### 6.1 Connector mating

(1) Check contact latching condition, proper wire tie up position, and TPAs are in lock condition. (See Part. 5.2)

(2) In the next step, check no contact has deformation, discolor, damage, rust and housing have no deformation, crack breakage, and discolor.

**NOTE:** In case of any trouble is found, replace it to new one.

### (3) Connector Assemble

Insert the COVER ASS'Y to Plug ASSY's fixed part, then finish the assemble until making locking sound as shown Fig 13.

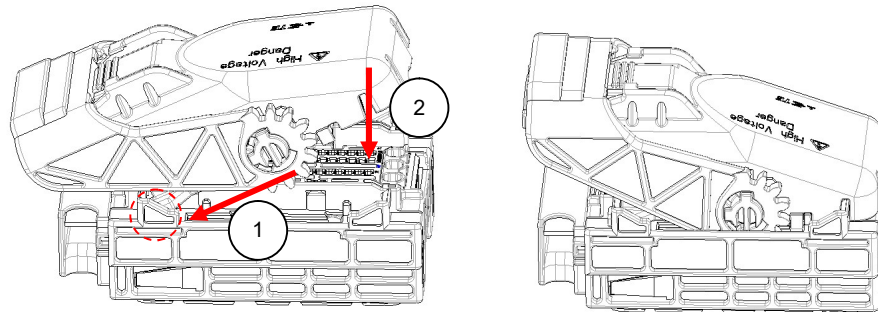


Fig. 13

- Confirm LEVER is in PRE-LOCK condition, insert the PLUG ASS'Y to HEADER ASS'Y until making assemble sound, then turning the lever to fitted as shown Fig. 14.

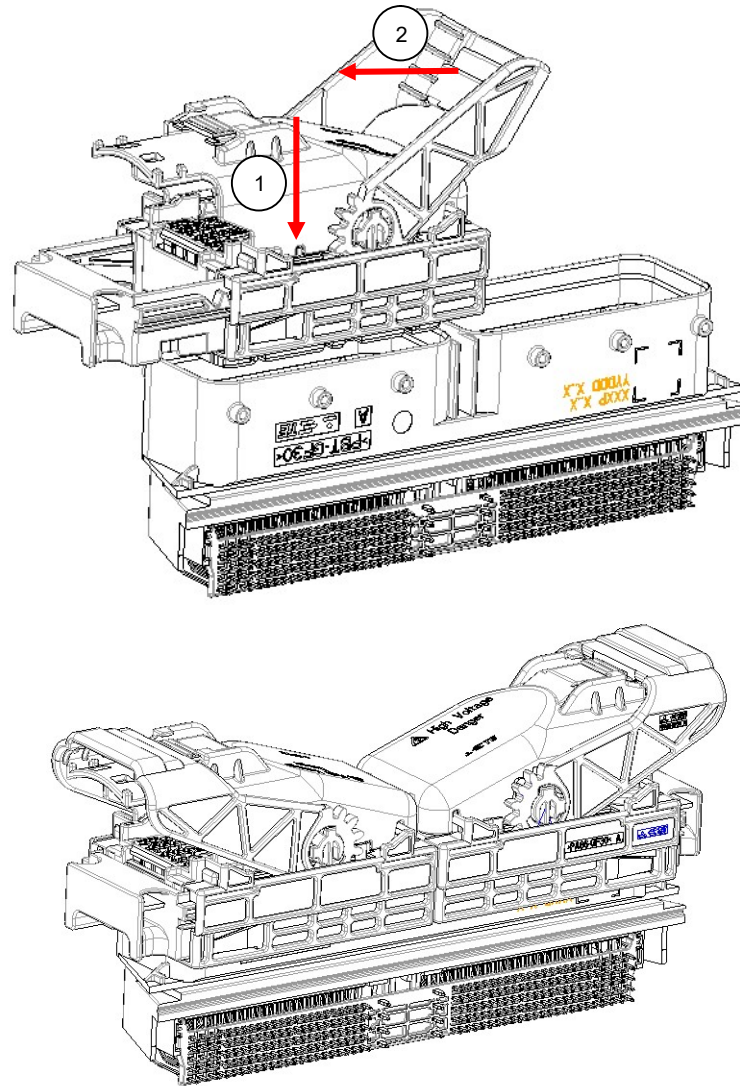


Fig. 14

**NOTE:** Assemble the other side in the same way

6.2 Connector unmating

- (1) Push the COVER ASS'Y's locking block.
- (2) Pull out the lever to inserting reverse direction. (See Fig. 15)

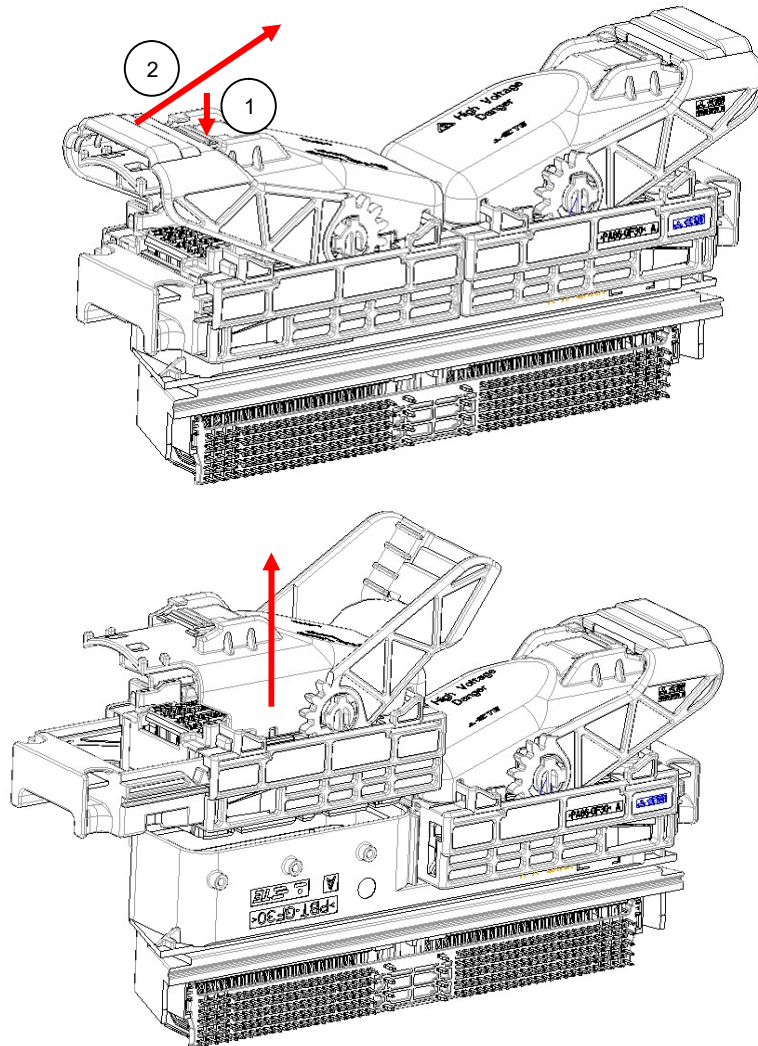


Fig. 15

**NOTE:** Disassemble the other side in the same way

- (3) Insert the REWORK TOOL to locking part, then push the REWORK TOOL to up-direction. Utilize the principles of the lever and fulcrum as shown Fig. 16.

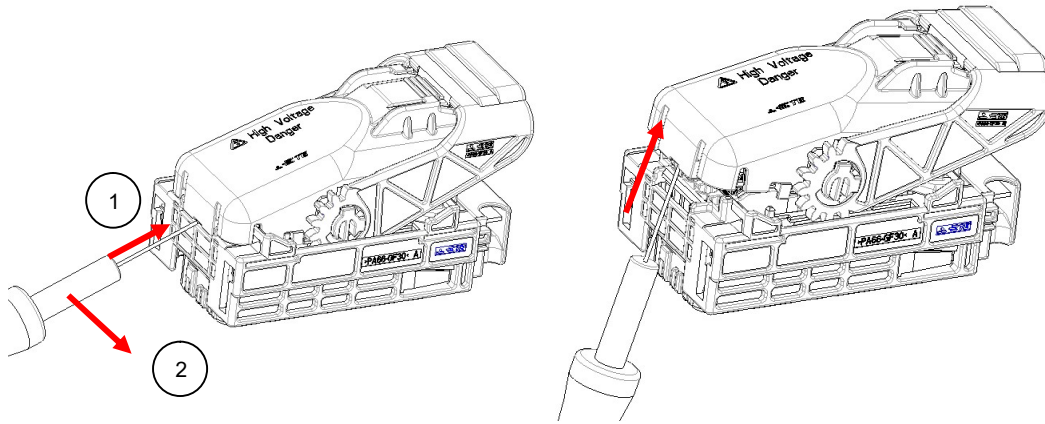


Fig. 16



**7. SPECIFICATION APPROVAL**

Prepared by,

H.C. CHOE

Checked By,

Y.H. KIM

Product Engineer

Senior Product Engineer

Approved by,

Y.J. YOUN

Product Engineering Manager