



025/060/110/250 HYB 51 Pos Connector

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7. SPECIFICATION APPROVAL

1. PART NUMBER AND PART NAME

1.1 Housing

| Part Number | Part Name |
|-------------|-----------------------------------|
| 2350333-1 | 025/060/110/250 HYB 51P CAP ASSY |
| 2350338-1 | 025/060/110/250 HYB 51P PLUG ASSY |
| 2350341-2 | 025/060/110/250 HYB 51P LEVER HSG |

Fig. 1

1.2 Contact

1.2.1 TAB Contact

| Part Number | Part Name | Applicable Wire Range |
|-------------|------------|-----------------------------|
| 2350583-1 | .025 | 0.22 mm ² |
| 2350583-2 | | 0.3 ~ 0.5 mm ² |
| 2109005-1 | .060 | 0.22 ~ 0.35 mm ² |
| 2109005-2 | | 0.5 ~ 0.75 mm ² |
| 2109005-3 | | 0.85 ~ 1.25 mm ² |
| 2317588-1 | .110 | 0.3 ~ 0.35 mm ² |
| 2317589-1 | | 0.5 ~ 1.0 mm ² |
| 2317590-1 | | 1.25 ~ 2.5 mm ² |
| 2317601-1 | | 3.0 mm ² |
| 964304-1 | .250 (MCP) | 0.5 ~ 1.0 mm ² |
| 964306-1 | | >1.0 ~ 2.5 mm ² |
| 964308-1 | | >2.5 ~ 4.0 mm ² |
| 2-968050-1 | | 4.0~5.0 mm ² |

Fig. 2

1.2.2 REC. Contact

| Part Number | Part Name | Applicable Wire Range |
|-------------|------------|-----------------------------|
| 2188446-1 | .025 | 0.22 mm ² |
| 2188446-2 | | 0.3 ~ 0.5 mm ² |
| 2109006-1 | .060 | 0.22 ~ 0.35 mm ² |
| 2109006-2 | | 0.5 ~ 0.75 mm ² |
| 2109006-3 | | 0.85 ~ 1.25 mm ² |
| 2317603-1 | .110 | 0.3 ~ 0.35 mm ² |
| 2317604-1 | | 0.5 ~ 1.0 mm ² |
| 2317605-1 | | 1.25 ~ 2.5 mm ² |
| 2317606-1 | | 3.0 mm ² |
| 1241402-1 | .250 (MCP) | 0.5 ~ 1.0 mm ² |
| 1241404-1 | | >1.0 ~ 2.5 mm ² |
| 1241406-1 | | >2.5 ~ 4.0 mm ² |
| 1241408-1 | | 4.0 ~ 5.0 mm ² |

Fig. 3

1.3 Component View




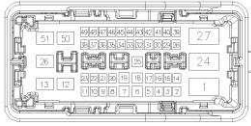

| DESCRIPTOIN | CAP ASSY | PLUG ASSY | LEVER |
|-------------|---|--|---|
| P/NO | 2334242-2 | 2334250-2 | 2334257-2 |
| IMAGE |  |  |  |
| SIMBOL |  |  | |

Fig. 4

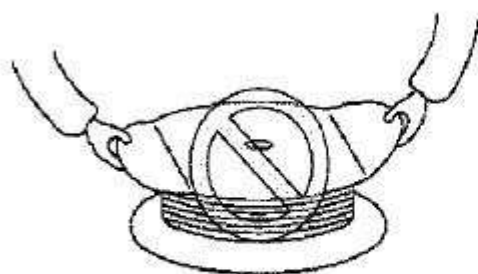
2. CUSTOMER RECEIVING INSPECTION

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

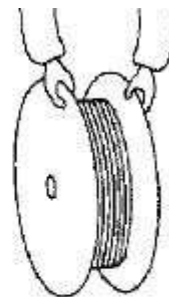
3. STORAGE AND CARRY

3.1 Contact

- (1) Avoid receiving or carrying the contact reel in an open area without wrapping it in proper material.
- (2) Do not lift up and carry the contact reel by gripping one the side of the reel, this may result in damage to the reel and contacts before use.



Do not lift up laterally holding one side only.



Acceptable

Fig. 5

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

- (4) When removing the contact reel from the machine, fasten the end of the contact strip onto the edge of the reel with use of proper string or wire. Fig.6

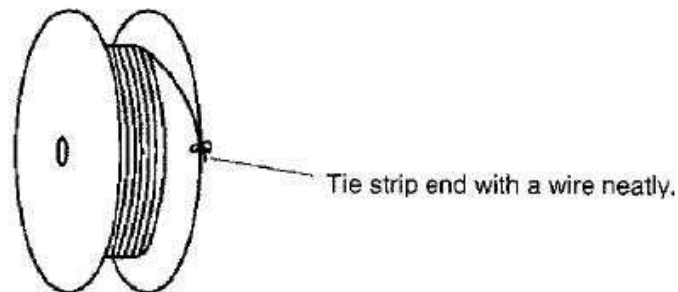


Fig. 6

3.2 Housing

- (1) Avoid storing the contact reel in a moist or dusty place. Stock the reel in a comparatively dry and clean place (5~35 °C, 45~85RH) away from direct sunlight.
- (2) Avoid leaving or carrying the housing in an open area without wrapping it in proper material.
- (3) Do not drop or shock the housing when carrying it.

4. CRIMPING OPERATION

4.1 Wire

- 4.1.1 Applicable Wire. See Fig.7 for applicable wire.

- 4.1.2 Notes FOR Stripping Wire End
Wire end must be stripped without cut or damage of wire stands.

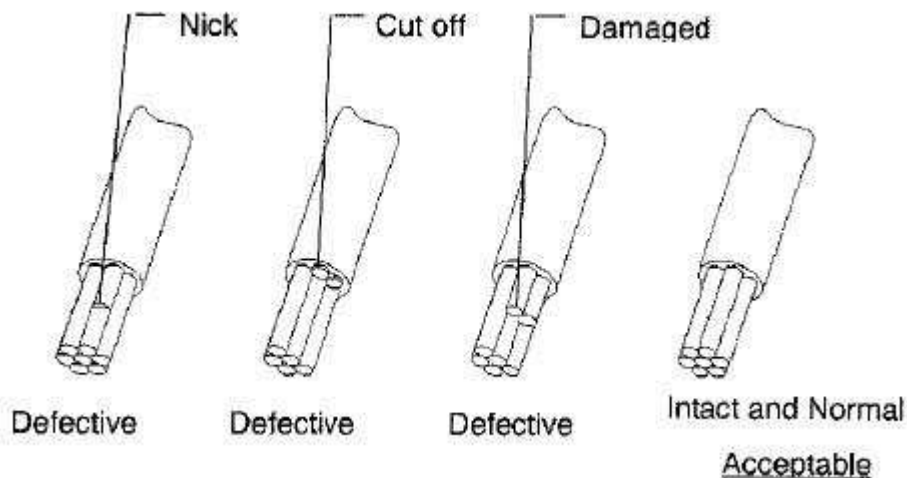


Fig. 7

- 4.2 Crimping Specification
See following Application Specification for each contact

| | |
|-----------|------------|
| 025 TH | 114- 61030 |
| 060 | 114- 61036 |
| 110 | 114- 18148 |
| 250 (MCP) | 114- 18388 |

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 the next day.
- (2) Care should be taken for tangle and deform of contacts in case of the leads should be in bands.
- (3) Do not stack the product 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 contacts to coordinate the bundle. It makes mating or electrical defective.

5. HARNESS ASSEMBLY

5.1 Insertion Male Contact into Cap Assembly

- (1) Check retainer is in pre-lock condition as shown in Fig.8. The contact cannot be inserted in case of the final lock condition so do it again after rework.

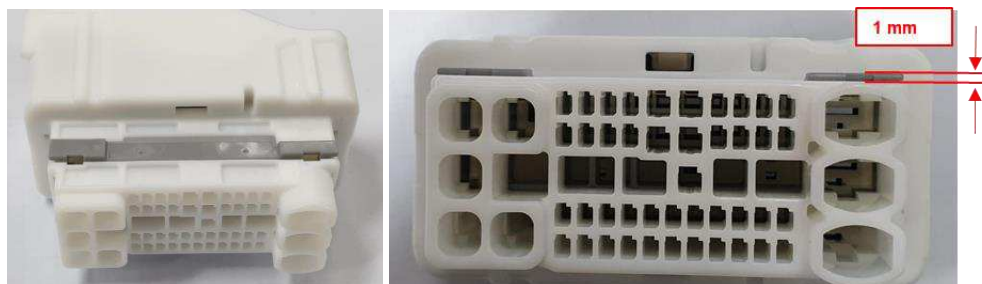


Fig. 8

NOTE: Retainer and HSG have 0mm gap in pre-lock condition.

- (2) Insert contacts into the each specific cavity with proper contact direction as shown in Fig. 9. Operation is completed when contact is latched and the insertion is stopped.

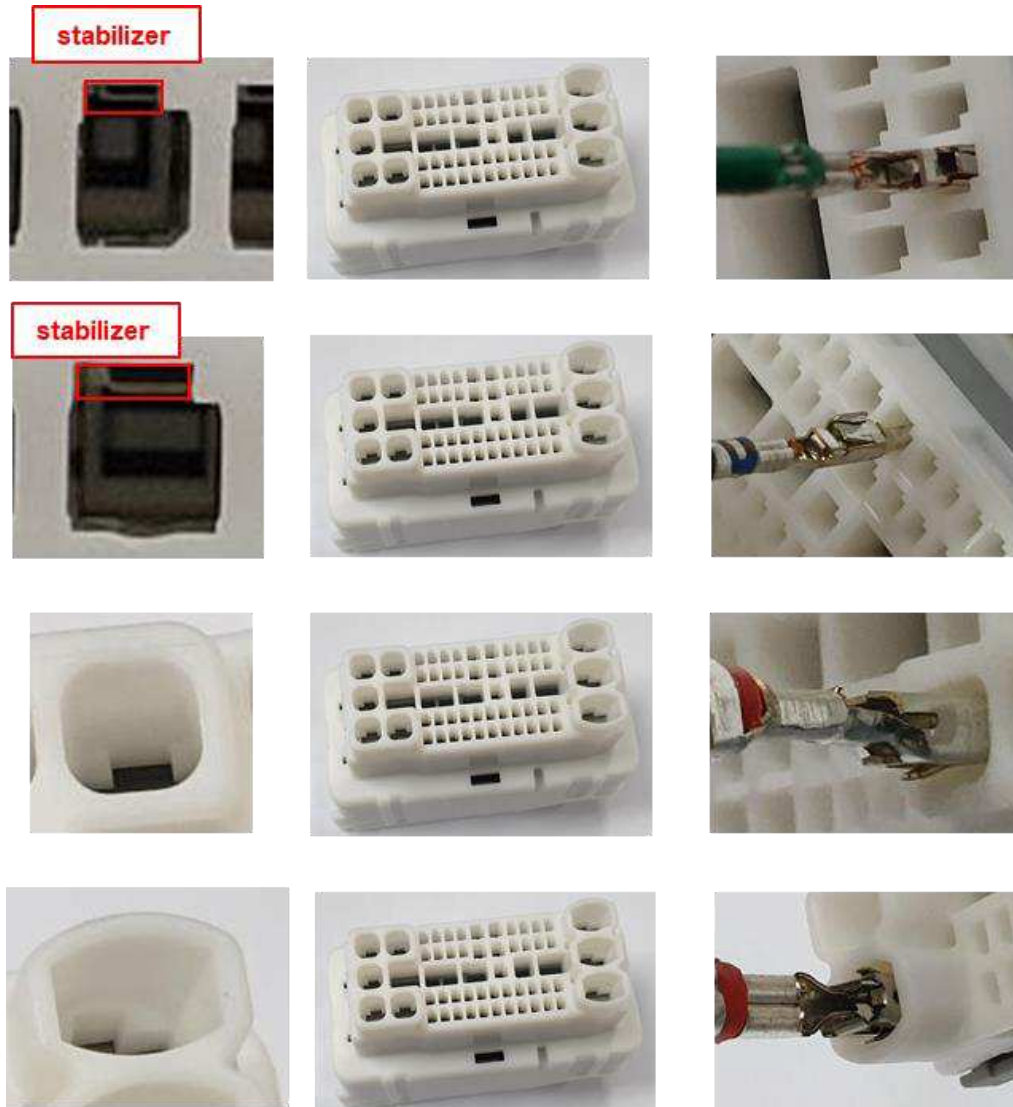


Fig. 9

NOTE: Insert contacts into cavity after verifying stabilizer of hole.

5.2 Retainer Final Lock (Secondary Lock)

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

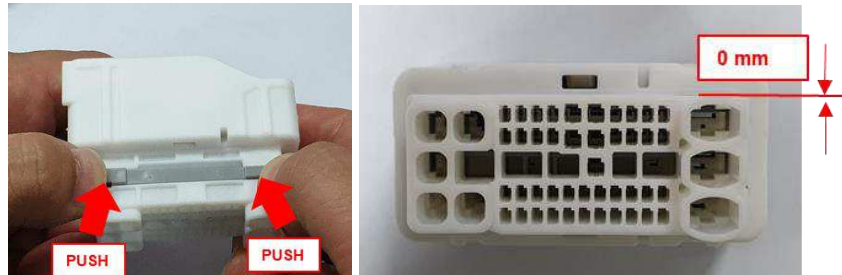


Fig. 10

NOTE: Push both side of Retainer to lock final-status. The gap is to be 0mm between Retainer and HSG. Check the gap is 0mm.

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

5.3 Cap Retainer Release Procedure

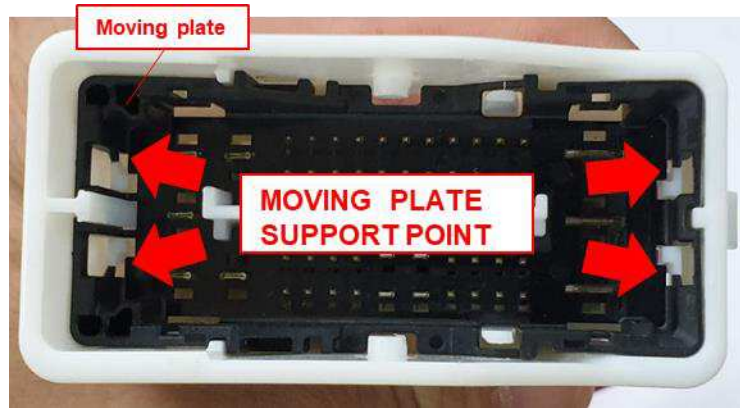
In case of Male Contact insertion or extraction, Retainer is extracted to Pre-Lock condition (see Fig.8). Refer to Retainer release operation in Fig.11 .



Fig. 11

5.4 Male Contact Extraction

- (1) Confirm Retainers are in Pre-Lock condition. In case of Final Lock condition, it is necessary to move it to Pre-Lock condition (see Par. 5.3). It is impossible to extract the contacts under Final Lock condition.
- (2) Before extracting contacts, moving plate should be moved to down position. Release moving plate support by pushing supporters (4points), and then push down moving plate. (see Fig.9)







- (3) Extract the contact with specified tool inserted into proper hole until stopped at bottom end. (see Fig. 14) (It makes operation easier to press the contact to insertion direction once.)



Fig. 14

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

| Terminal | Extraction tool p/n | 비고 |
|-----------|----------------------|--|
| 025 | Instruction sheet 참조 |  Instruction_025_T F_L Terminal.pdf |
| 060 | 411-61008 참조 |  411-61008.pdf |
| 110 (MCP) | 1-1579007-2 |  C_1-1579007-2_A2 .pdf |
| 250 (MCP) | 1-1579007-6 |  1-1579007-6 |

- (4) After extracting contact, moving plate should be normal position (moving plate on the support) to re assembly plug part. Push moving plate up on bottom side of cap. (see Fig. 15)

Note: Do not insert plug without repositioning moving plate to the upright position. It causes damage movement function of moving plate.

5.5 Insertion Female Contact into Plug Assembly

- (1) Check retainer is in pre-lock condition as shown in Fig.15. The contact cannot be inserted in case of the final lock condition so do it again after rework.

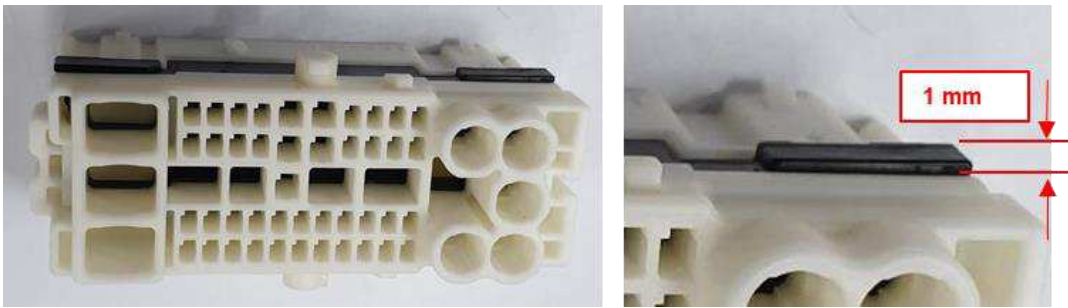


Fig. 15

NOTE: Retainer and HSG have 1.0mm gap in pre-lock condition.

- (2) insert each of contact with same direction in Fig. 16.

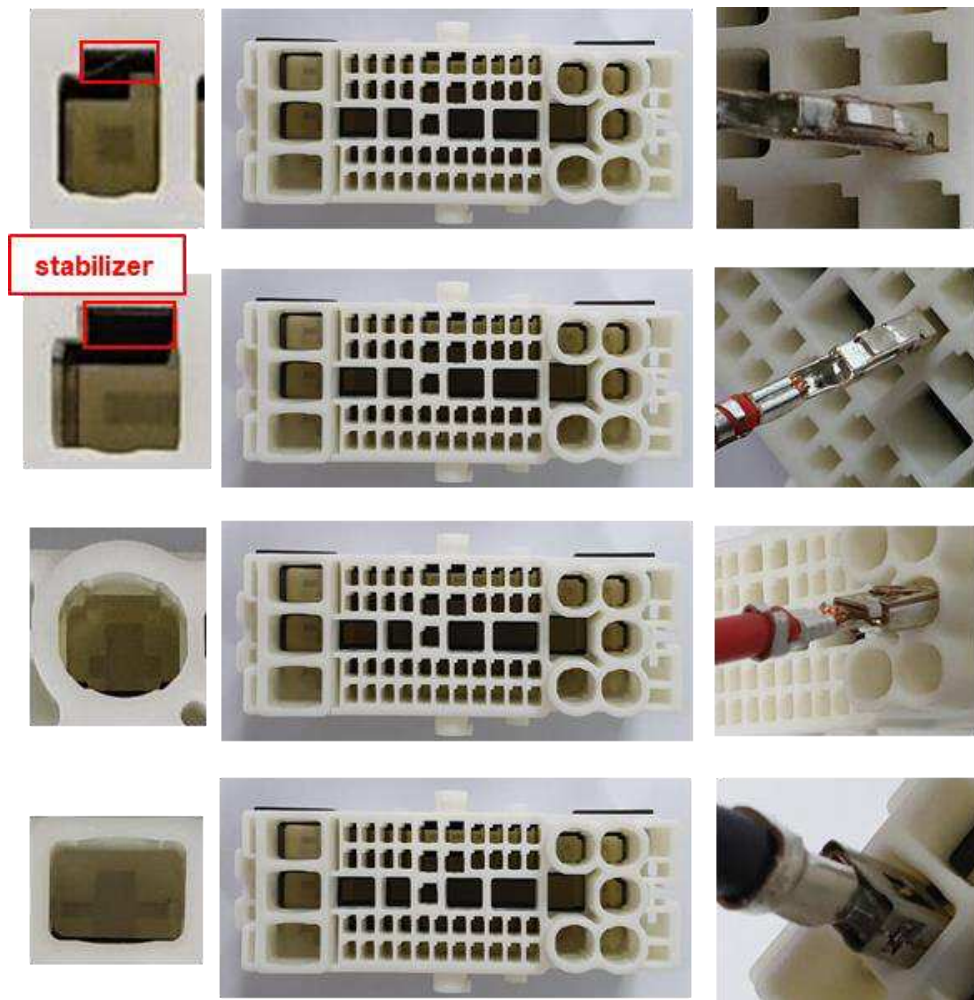


Fig. 16

NOTE: Insert contacts into cavity after verifying stabilizer of hole.

5.6 Retainer Final Lock (Secondary Lock)

- (1) After all cavities are filled by Contacts properly, insert Retainers into Housing to deep end and complete Final Lock condition as shown in Fig. 18. Operation is completed when contact is latched and the insertion is stopped.

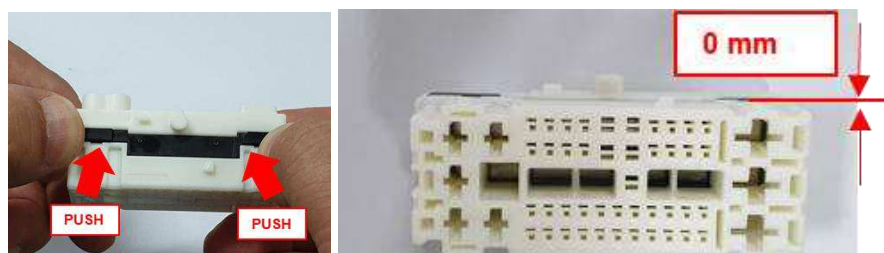


Fig. 18

NOTE: Push both side of Retainer to lock final-status. The gap is to be 0mm flash with Retainer and HSG. Check the gap is 0mm flash.

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

5.7 Assembly lever

- (1) After retainer final lock properly completed, insert lever housing to plug houing. Lever assembly position should be matched with plug part as shown in Fig 19.

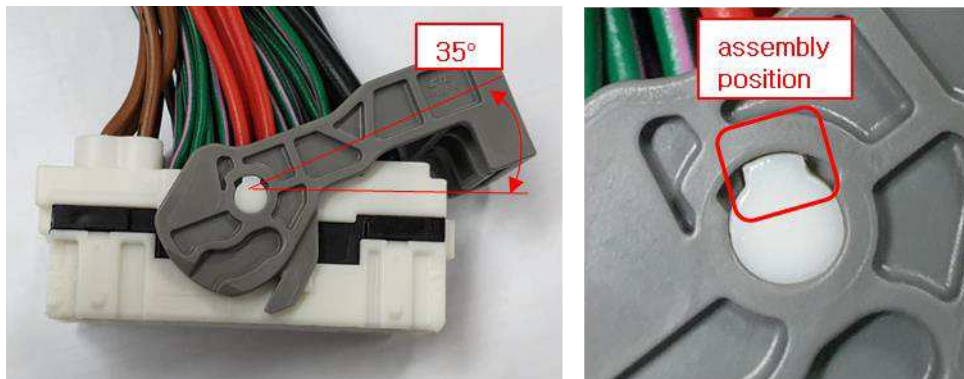


Fig. 19

- (2) After assembly lever housing, rotate lever to set pre-lock position.

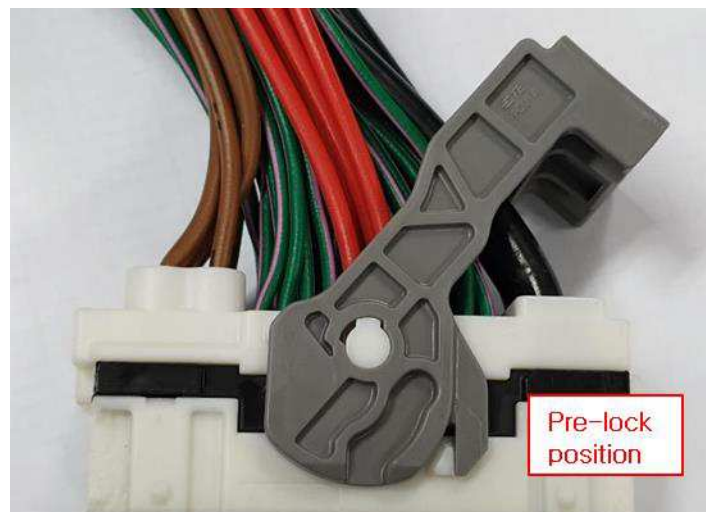
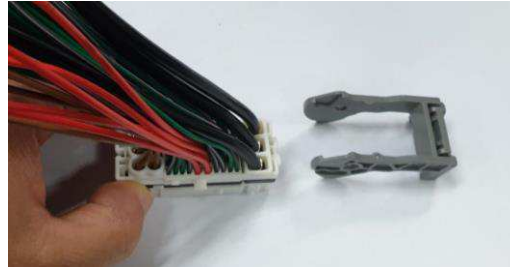


Fig. 19

NOTE: Before set lever housing pre-lock position, wires should be bended toward opposite direction of lever housing to prevent disturbing lever rotation.

5.8 REC PLUG Retainer Release Procedure

- (1) Before set retainer pre-lock condition, lever housing should be removed.
To remove lever from plug housing, rotate lever housing from free-lock position to assembly position as shown Fig 19. Remove process is in reverse order of assembly process



- (2) In case of Female Contact insertion or extraction, Retainer should be extracted to Pre-Lock condition (see Fig.15, 19)

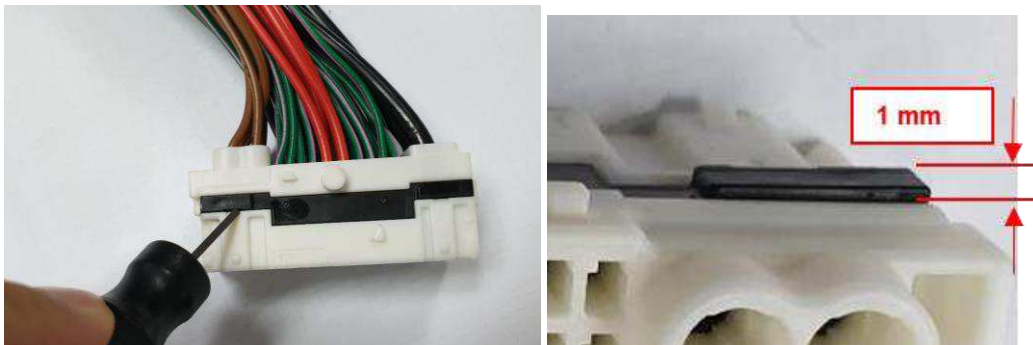


Fig. 19

5.9 Female Contact Extraction

- (1) Confirm Retainers are in Pre-Lock condition. In case of Final Lock condition, it is necessary to move it to Pre-Lock condition (see Part. 5.7). It is impossible to extract the contacts under Final Lock condition.
- (2) Extract contact with pulling the crimped wire while pressing latch slightly with extraction tool into the extraction hole. (It makes easier the operation that push the contacts to bottom end of the cavities once before the operation above-mentioned).

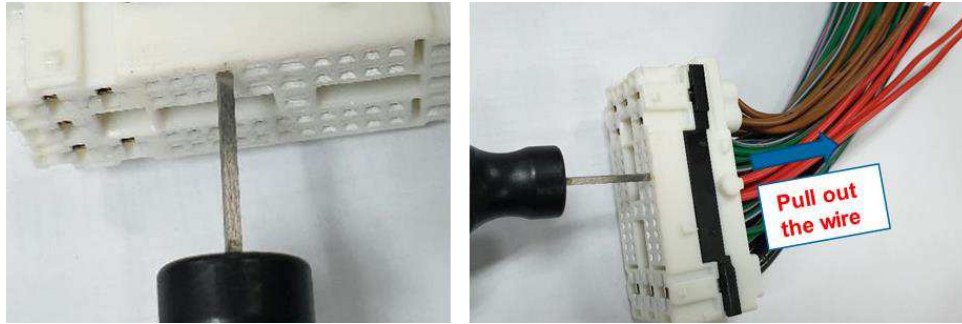






Fig. 20

Note: Do not insert the tool or screw driver into inside of the female contact. In case of the insertion, no reuse is allowed and must be replaced to new female contact.

| Terminal | Extraction tool p/n | 비고 |
|-----------|----------------------|--|
| 025 | Instruction sheet 참조 |  Instruction_025_T H_Terminal.pdf |
| 060 | 411-61008 참조 |  411-61008.pdf |
| 110 (MCP) | 1-1579007-2 |  C_1-1579007-2_A2 .pdf |
| 250 (MCP) | 1-1579007-6 |  1-1579007-6 |

5.10 Wire Harness Control

5.10.1 Handling

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

5.10.2 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.

5.10.3 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.

5.10.4 Storage

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

5.10.5 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 Retainer is in final lock condition. Retainer must be adjusted to final condition if it is in initial lock condition.

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

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

NOTE: In case of any unexpected feeling such as double action or unsmooth insertion during the operation, Lever must be adjusted to at initial condition. Operation must be restarted. And the return to (4) operation.

6.2 Connector Unmating.

- (1) Release Lever lock and keep OPEN position.
- (2) Release female housing from male housing.



7. SPECIFICATION APPROVAL

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Senior Product Engineer

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Product Engineering Manager