

025(0.64)/187(4.8) I/O CONNECTOR

NOTE This Instruction sheet shows the male connector and 025(0.64) female connector & terminal only.
Please make reference to terminal producer about 187(4.8) female connector & terminal.

1. Part Name and Part Number

1.1 Housing

Tyco Part Number* ¹	Part Name
1565221	025(0.64)/187(4.8) SER 20POS. CAP ASSY(Male Connector)
1376352	025(0.64) SER 8POS. PLUG ASSY(Female Connector)
1565287	025(0.64) SER 12POS. PLUG ASSY(Female Connector)
-	187(4.8) SER 2POS. PLUG ASSY(Female Connector)* ²

Fig.1

*¹Note: Part number is consisted from listed base number and 1 digit numeric prefix and suffix with dash.
Refer to catalog or customer drawing for specific part numbers for each base number. When prefix is zero, zero and dash are omitted.

*²Note: Please make reference to terminal producer about 187(4.8) female connector.

1.2 Terminals

Tyco Part Number	Description	Wire Type (O: Applicable, —: Not Applicable)			
		Type	0.22	0.3	0.5
1123343-1 1123343-2	025(0.64) Receptacle (Female Terminal)	CAVUS	○	○	○
		AVSS/AVSSH	—	○	○
		CAVS	○	○	○
—	187(4.8) Receptacle (Female Terminal)	See the applicable manufacturer's Spec.			

Fig.2

1.3 Components View

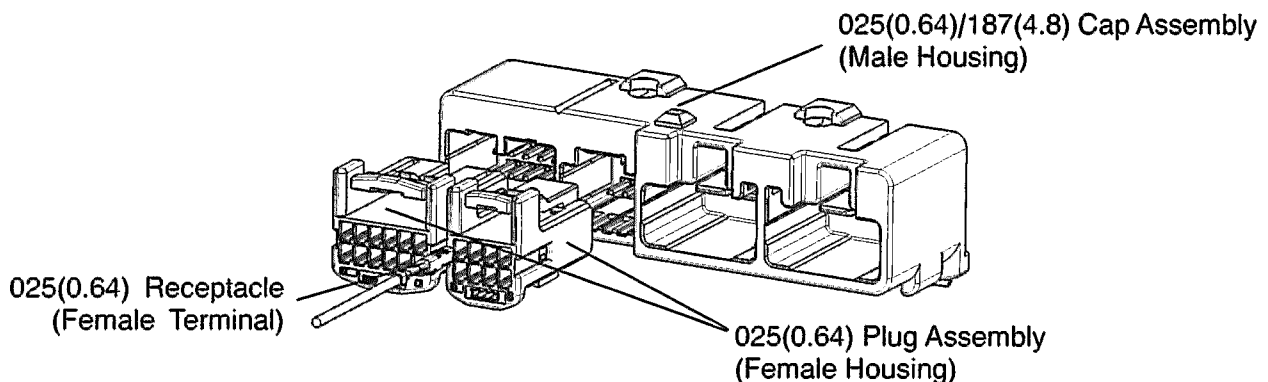


Fig.3

NOTE Please make reference to terminal producer about 187(4.8) female terminal.

2. Customer Receiving Inspection

We conduct inspections according to our 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 Carrying

3.1 Terminals

- (1) Avoid leaving or carrying the terminal reel in an open area without wrapping it in proper material.
- (2) Do not lift up and carry the terminal reel by gripping one the side of reel, this may result in damage to the reel, and terminals before use. (See Fig.4)

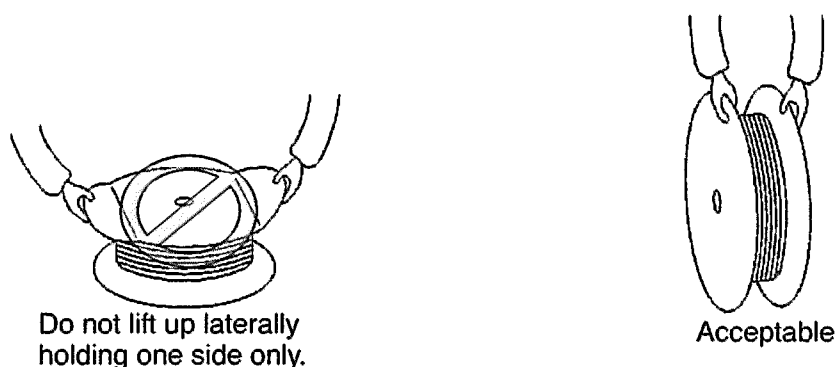


Fig.4

- (3) Avoid storing the terminal reel in a moist or dusty place. Stock the reel in a comparatively dry and clean place (5~35°C, 45~85%RH) away from direct sunlight.
- (4) When removing the terminal reel from the machine, fasten the end of terminal strip onto the edge of the reel with use of proper string or wire. (See Fig.5)

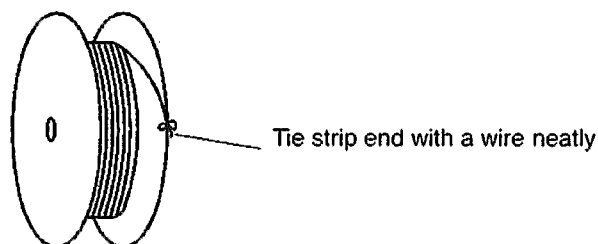


Fig.5

3.2 Housings

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

4. Fixing Housing and PC Board

Insert the terminal of the male connector into the hole of PC Board. Then after fixing the housing and the board with a screw, solder the terminals. And take care of the following at the work.

- (1) See the customer drawing for the PC Board dimension.
- (2) Do not deform the terminal (PC Board side), otherwise the male connector can not be fixed on the P.C. board.
- (3) The fixing should be made with the proper type of screw and torque.
 - Recommended Screw: JIS B1115, B1122, TAPPING SCREW, PAN HEAD, CLASS2, M3×6
 - Recommended Torque: 0.392N·m MAX. (for reference: Torque for operation should be provided respectively.)
- (4) No discoloration or deformation should be caused by the heat of soldering.
- (5) In addition, both sides (mating side and solder side) of the terminal and the housing must not be damaged or deformed by the operation. No foreign substances are permissible in the mating area.

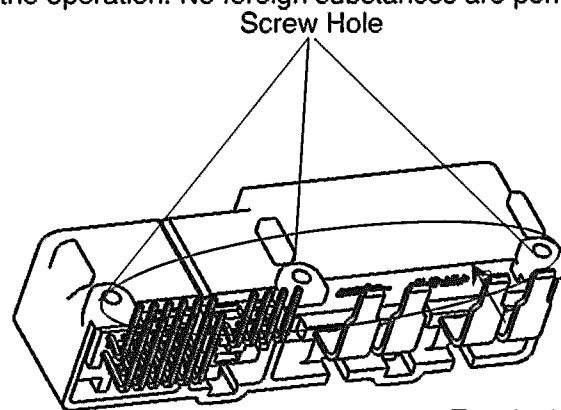


Fig.6 Terminal (P.C.Board Side)

5. Crimping Operation

Any crimping of terminals must be performed by using appropriate AMP tools according to the applicable Instruction Sheet and Specification.

NOTE See the applicable manufacturer's instruction sheet for 187(4.8) terminal.

5.1 Wire

5.1.1 Applicable Wire

See Fig.2 for applicable wire.

5.1.2 Notes for Stripping of Wire End

Wire end must be stripped without nick, cutoff, or damage of wire strands.

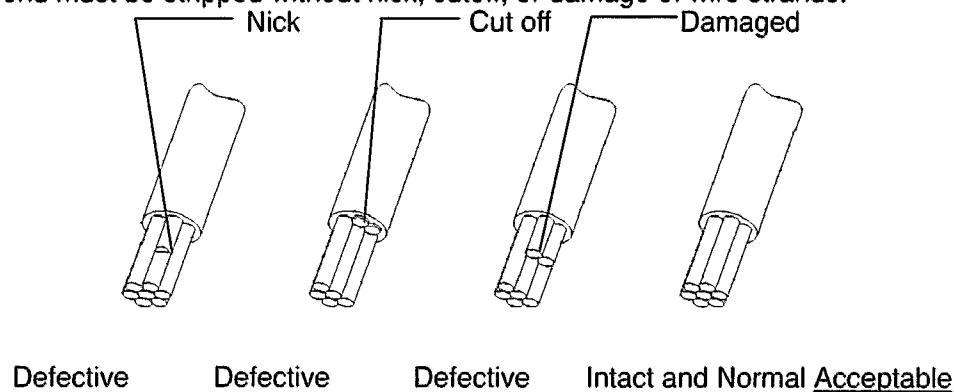


Fig.7

5.2 Operation of Crimping Machine

In the case of "025(0.64) Receptacle Terminal", see instruction sheet "412-5022(separate volume)" for automatic terminating machine.

5.3 Crimping Specification

In the case of "025(0.64) Receptacle Terminal", see application specification "114-5250(separate volume)".

5.4 Storage and Handling of 025(0.64) Crimped 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) Crimped leads should be processed in bundles of less than 100 pieces. In addition, care should be taken in case the leads catch together or be tangled, causing damage of the products (Specially the lance of 025(0.64) Receptacle Terminal).
- (3) Avoid stacking and piling up the in-process products in large volume. Deformation of the terminal will result in malfunction of contacting parts electrically.

6. Harness Making

NOTE See the applicable manufacturer's instruction sheet for 187(4.8) female connector.

6.1 Procedure for Female Terminal Insertion into Housing

- (1) Confirm the retainer is in pre-assembled condition. When the retainer is in final lock condition, it must be unlocked to pre-assembled condition. See para.6.3. The terminal can not be inserted in final lock condition.

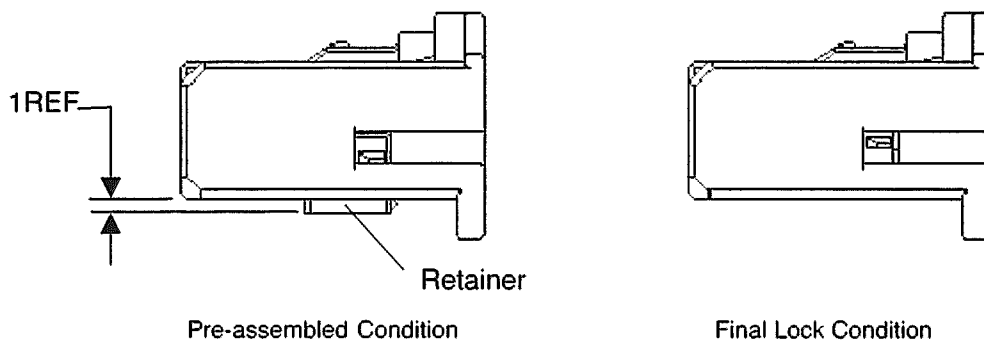


Fig.8

- (2) Confirm type of plating on the terminal. It must be the same type of plating on the female terminal and on the male terminal. The type of plating can be seen on the customer drawing.

NOTE Connection between different types of terminals should never be allowed.

- (3) Insert the terminals into the housing with same direction as shown in Fig.9. The insertion is finished when the lance (Terminal Lance) is locked and the terminal can not be more inserted.

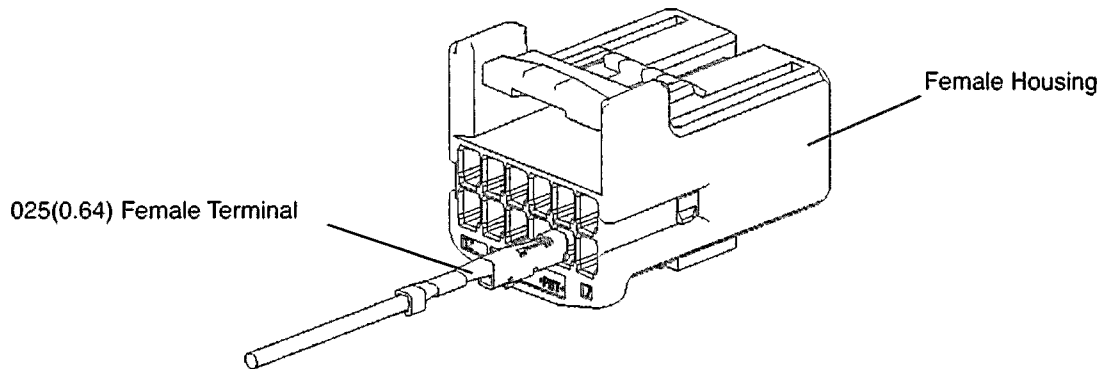


Fig.9

- (4) By pulling the terminal by 20N MAX, check to make sure that the terminal can not be withdrawn.

6.2 Double Lock (Secondary Lock) Operation

- (1) After insertion of all of the terminals, press the retainer for final lock condition. The double lock operation is finished by confirmation that the retainer is kept in the final condition by the 2 projections.

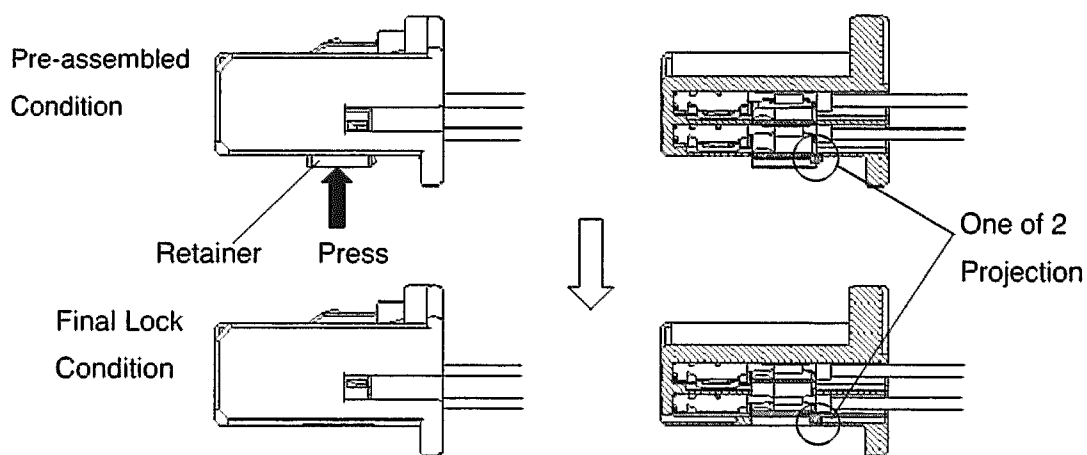


Fig.10

- (2) The double lock operation can not be completed if there are any half-inserted terminals. When the retainer can not be pressed to the final condition, do not press by force, find the half inserted terminal, and insert it to proper position. See para.6.1.

6.3 How to Unlock Retainer from Final Lock Condition

When the female terminal requires insertion or extraction, the retainer must be in the pre-assembled condition. The insertion or extraction can not be done in final lock condition.

- (1) Insert the jig, 1mm blade screw driver, into the window of the retainer pointed by the tear drop mark. See Fig.11 (next page).

(2) Draw out the retainer, about 1mm, to pre-assembled condition. Confirm that all of the projection is unlocked. See Fig.11 (next page).

NOTE Do not extract the retainer more than appropriate length. Otherwise the retainer may be damaged.

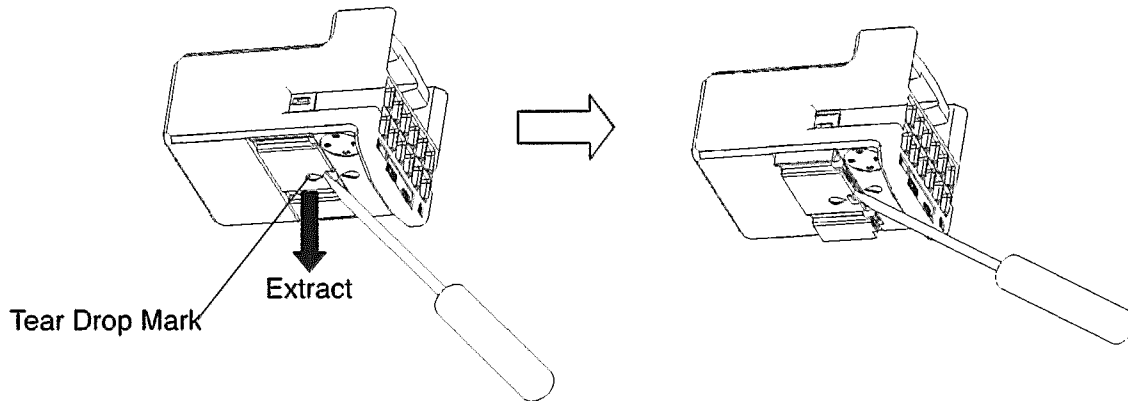
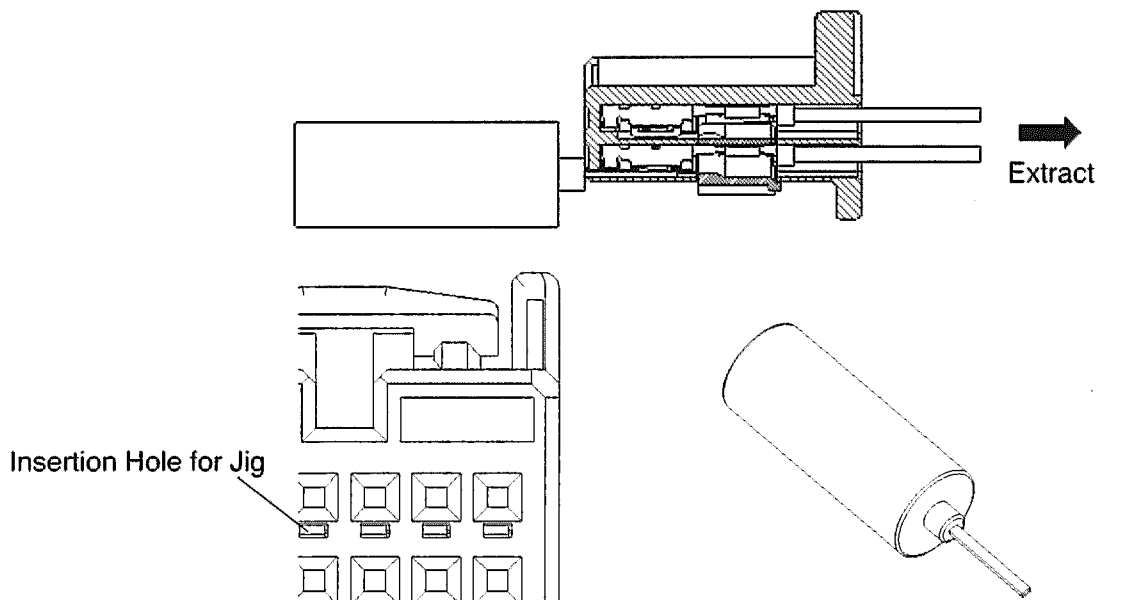


Fig.11

6.4 How to Extract Female Terminal

(1) Confirm the retainer is in pre-assembled condition. When the retainer is in final lock condition, it must be changed to pre-assembled condition. See para.6.3. The female terminal can not be extracted in final assembled condition.

(2) Insert the special extractive jig into the proper hole to the end, remove the loaded terminal from housing while pull the crimped wire. See Fig.12.



The Special Extractive Jig (for 025 Terminal)

Part Number: 1276565-1

Fig.12

NOTE If only insert the jig, the terminal lance will be released. Take care not to apply unnecessary force, otherwise the deformation of the jig occurs or it is cause for falling of retention force by the deformation of the terminal lance. And do not repeat extract more than 10 times, otherwise the retention force has fallen.

NOTE Do not extract the retainer by this extractive jig (for 025(0.64) terminal).

- (3) When the female terminal can not be extracted, do not pull the wire by force but ensure the housing lance is unlocked.

NOTE Take care not to insert the screwdriver or the extractive jig into the female terminal. If those should be inserted, the female terminal must be renewed. Re-using is never allowed.

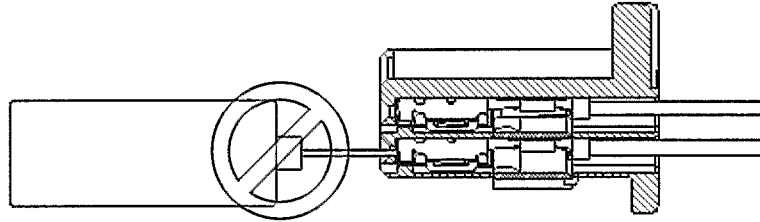


Fig.13

6.5 Harness Control

6.5.1 Handling

Take care not to apply unnecessary force or shock to the connector or the wire.

6.5.2 Taping up Wires

The wires must not be taped up more than 30mm from the end of the housing to avoid applying unnecessary force to the wires.

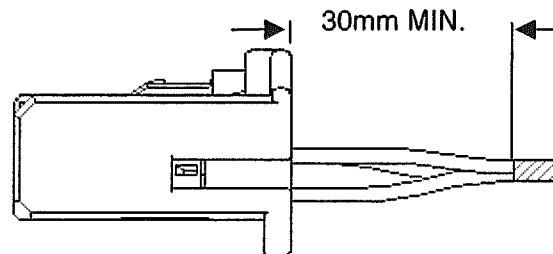


Fig.14

6.5.3 Electric Circuit Check

- (1) For making a check on electric circuit, the applicable mating half or equivalent product should be used.
- (2) Never insert the probe pin for the inspection into the female terminal. The pin must be probed from the wire side.

NOTE If the probe pin should be inserted, the female terminal must be renewed.

- (3) Please report to our company the treatment device for energizing inspection use.

6.5.4 Storage

Avoid storing the connector in a moist or dusty place. Stock the connector away from direct sunlight.

6.5.5 Shipping and Carrying

The connector should be used with the proper packaging to prevent the ingress of dust, moisture, etc.

7. Mating and Extraction of Connector

7.1 Mating of Connector

- (1) Check to make sure that the terminal is inserted into the housing in proper condition, the wire is taped up from proper position, and the retainer is in final lock condition. If the retainer is in pre-assembled condition, it must be changed to be in final lock condition. See para.6.
- (2) And then check the terminal and the housing into the male housing for defects, deformation, discoloration, damage, rust, crack, deficit, etc.

NOTE The connector must be renewed if any defects are found.

- (3) Insert the proper female housing into the male housing straight with same direction as shown in Fig.15. The operation is finished when you hear the click sound and can not insert further. When you can not insert the housing, do not insert by force and check the items in (1) and (2).

NOTE At the insertion operation, take care not to apply force except in the insertion direction.

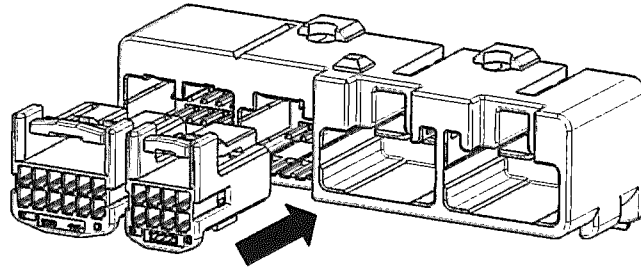


Fig.15

- (4) By pulling the female connector lightly, check to make sure that the connector can not be withdrawn.

7.2 Extraction of Connector

Grip the female housing, and then draw straight out while pressing down the locking lever. When the housing can not be drawn out, do not pull it by force but check to make sure if the locking mechanism is released.

NOTE At the extraction operation, take care not to apply force except in the extraction direction.

NOTE Do not pull the wire only.

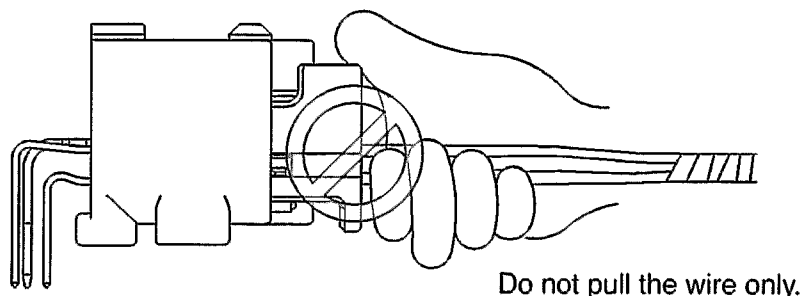


Fig.16

7.3 General Attention Matters

- (1) Do not mate and extract the connector unnecessarily.
- (2) Do not insert any objects except the proper connector.
- (3) At mating/extraction operation, or after mating operation, take care not to apply unnecessary force or shock to the wire and the connector.