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ZE05 SERIES INSTRUCTION SHEET

1. PURPOSE

2. COMPONENTS

3. ASSEMBLY PROCESS

4. REPAIR PROCESS

5. INSERTION/EXTRACTION PROCEDURE

6. OTHER / NOTES

△8 Completely revised

	COUNT	DESCRIPTION OF REVISIONS	DESIGNED	CHECKED	DATE
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技 術 指 定 書　TECHICAL SPECIFICATION	ETAD-T0649-00 △8		1 / 14

FORM HC0011-9-1

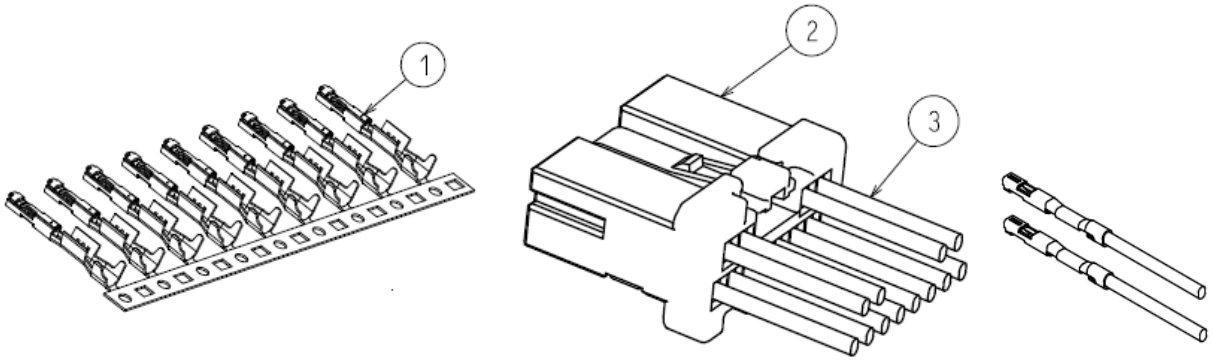
1. PURPOSE OF THIS DOCUMENT

This document provides explanations about Hirose part name ZE05-*S-HU/R(*), compatible terminal crimping, harness assembly, and how to mate. Please read carefully before using connector.
Also, please keep it in a place where you can view it at any time, while using the connector.

Pictures and diagrams used in this document are of representative products.

The contents of this document are subject to change without any notice.

2. COMPONENTS



COMPONENT PART SUMMARY

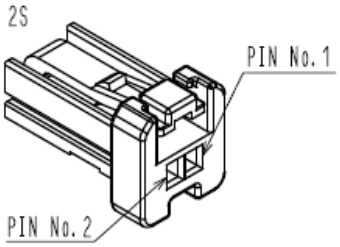
PART	PART DESCRIPTION	HIROSE PART NAME	NOTE
1	CRIMP TERMINAL	ZE05-2022SCF	For 0.3～0.5sq, tin plating
2	HOUSING RETAINER (Preset state)	ZE05-2S-HU/R	Applicable cable outer diameter φ1.4～1.7※
		ZE05-4S-HU/R	
		ZE05A-4S-HU/R	
		ZE05-5S-HU/R	
		ZE05-8DS-HU/R	
		ZE05A-8DS-HU/R	
		ZE05-12DS-HU/R	
		ZE05A-12DS-HU/R	
		ZE05-16DS-HU/R	
		ZE05-20DS-HU/R	
		ZE05-24DS-HU/R	
3	CABLE	—	—

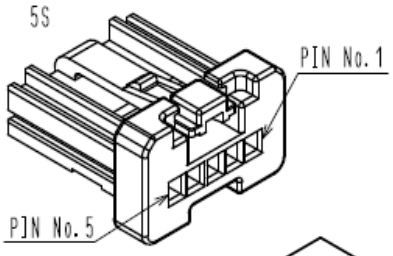
※If the outer diameter of the wire exceeds 1.6 mm, it may be difficult to insert it into the housing depending on the insulation material. For products not listed above, please contact our sales department.

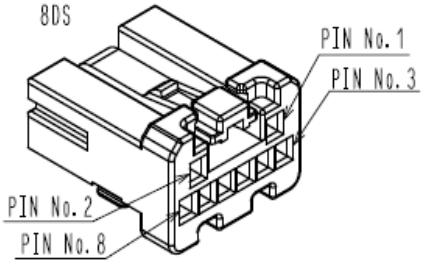
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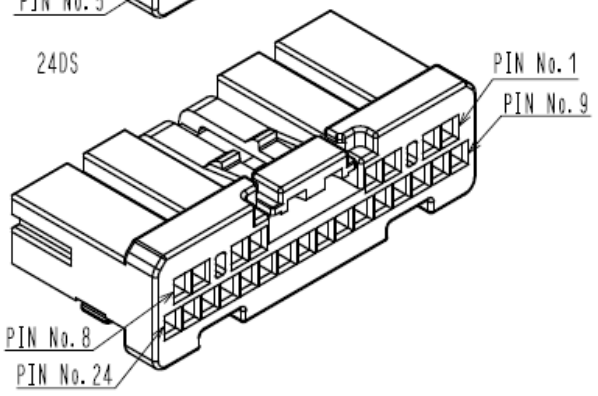
Example of pin number

(Terminal numbers for other numbers of pins will also have the same arrangement)







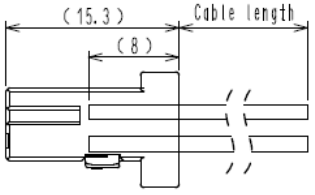


3. ASSEMBLY PROCESS

Note: For information regarding crimping, please refer to 'ETAD-T0589-00' ZE05-2022SCF CRIMP QUALITY STANDARD. Wires and crimping conditions confirmed using our tools can be found in the crimping conditions table.

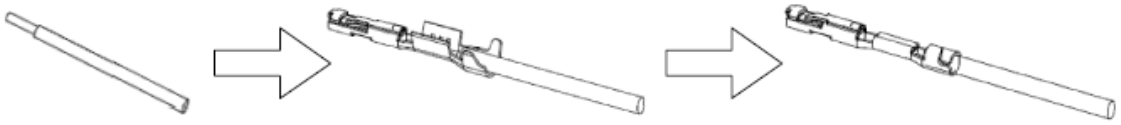
①Cut the cable.

Please set the cut length referring to the dimensions on the right.



Estimated cable cut length = cable length above ＋ 8mm

②Strip and crimp the cable according to the crimp quality standards and crimp conditions table.



Note: Please use our company's crimping tool.

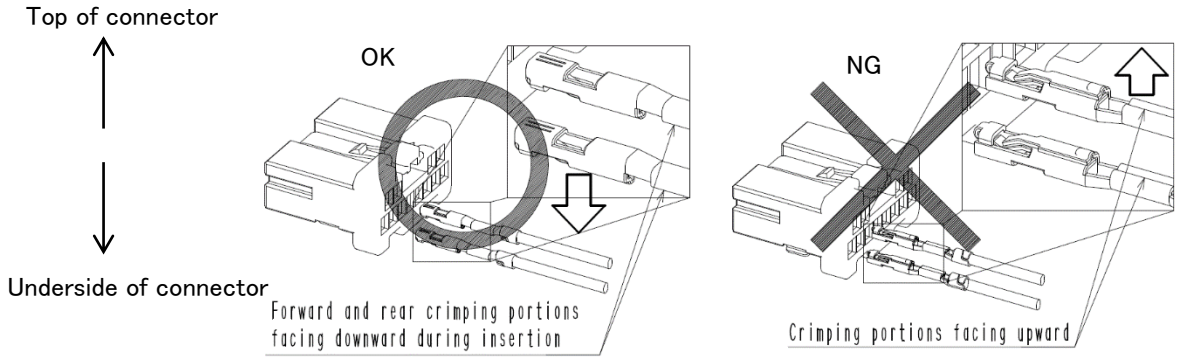
List of crimping tool part number

Part No.	Crimping tool P/N	HRS No.
ZE05-2022SCF	AP105-ZE05-2022S	901-5239-0
	HT802/ZE05-2022S	780-0045-0

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③Insert contact and push until a click is heard.

※Please take care to ensure that the terminal is inserted in the correct orientation.

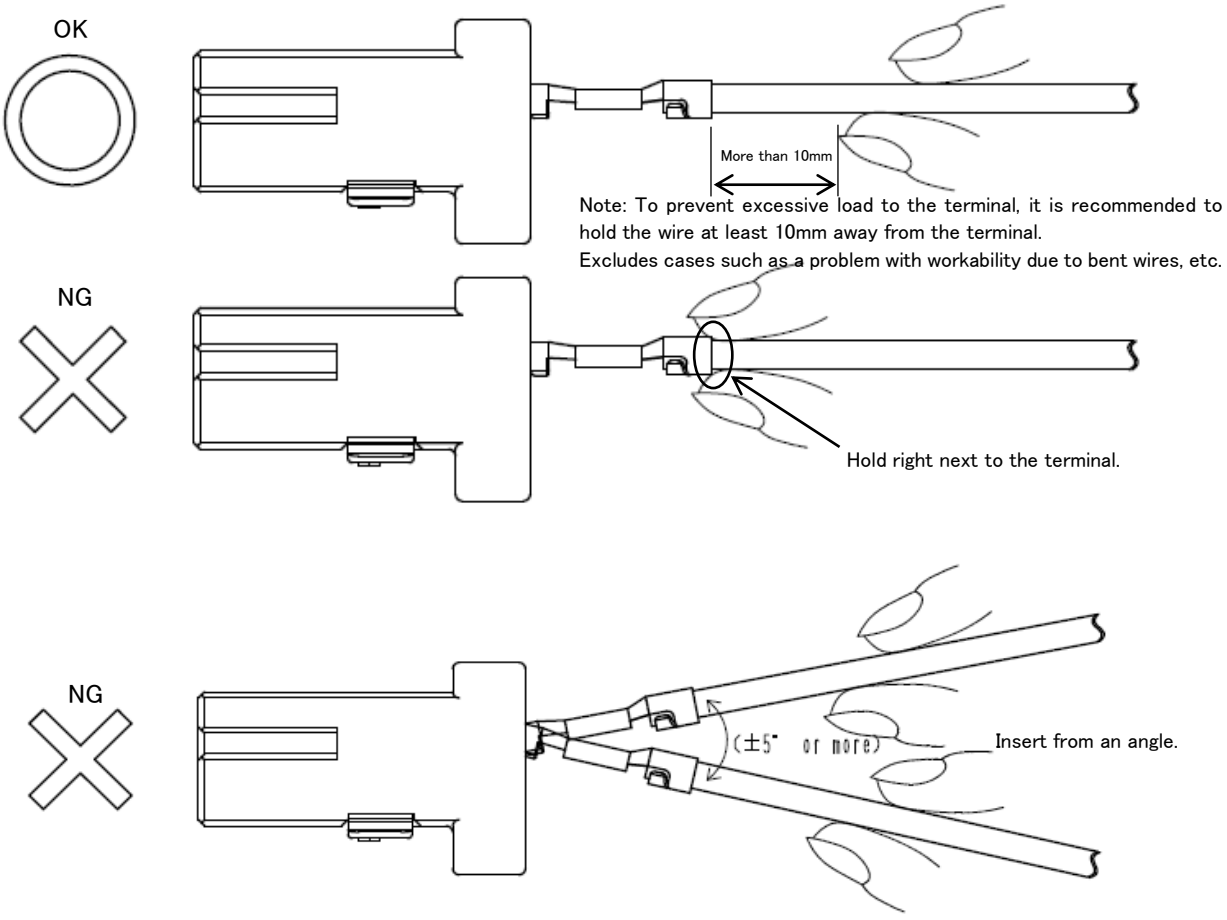


NOTE 1: Please holding the cable and insert straight into the housing.

Do not use more than 10N of force during this process.

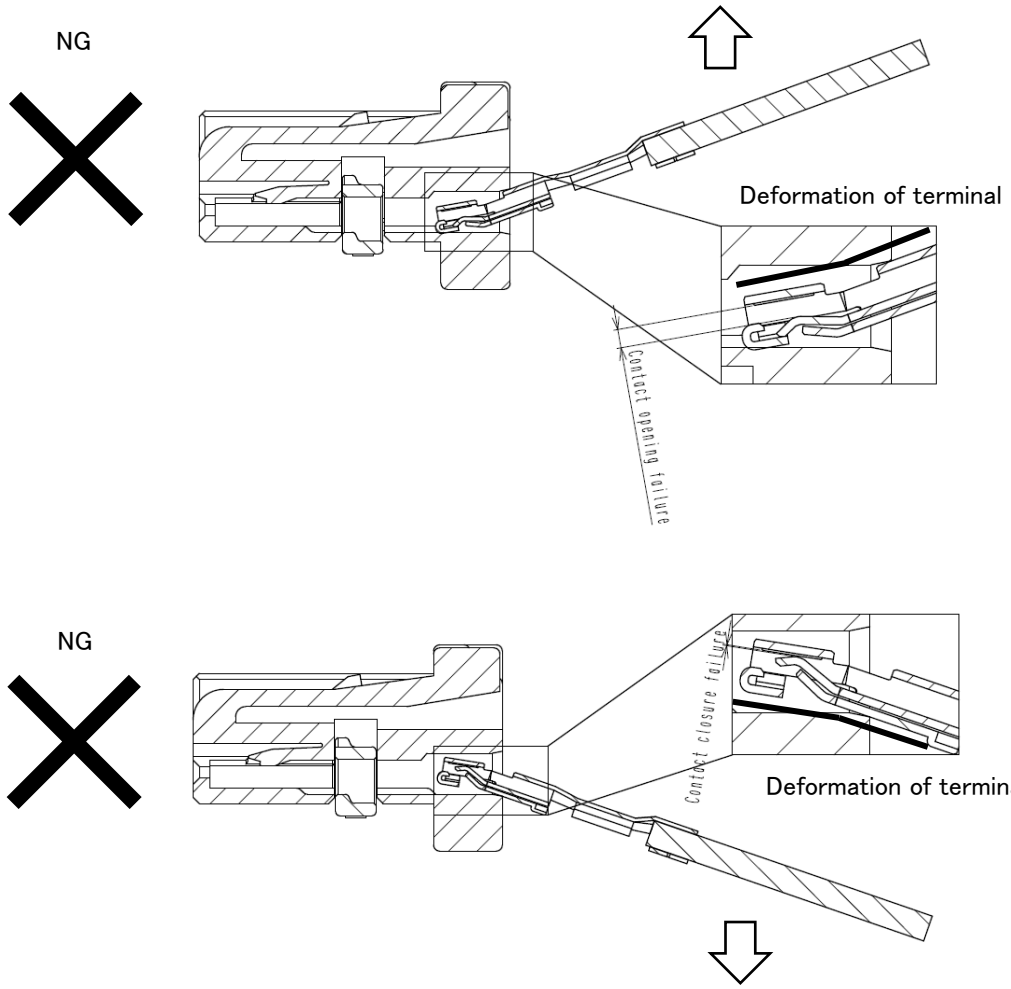
※If you hold the crimp terminal area and insert it with a force of 10N or more, the crimp terminal may be inserted even if the terminal is in the opposite direction, or deformed.

NOTE 2: If the crimped terminal does not enter the housing smoothly pull out the terminal gently and then re-insert.



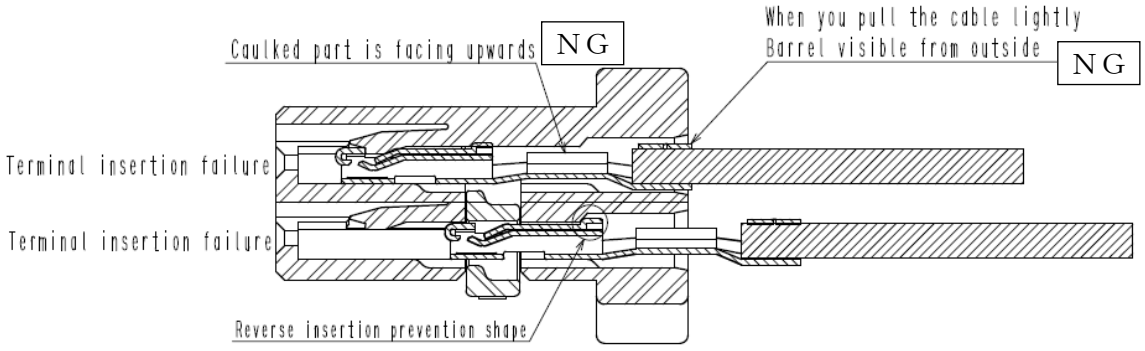
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NOTE 3. If the crimp terminal is inserted at an excessive angle or routed at an excessive angle during insertion, the terminal will become deformed and the contact gap will open or close incorrectly.



④After inserting the crimp terminal, pull the cable lightly (10N or less).
Please make sure that the crimp terminal is properly secured to the lance.

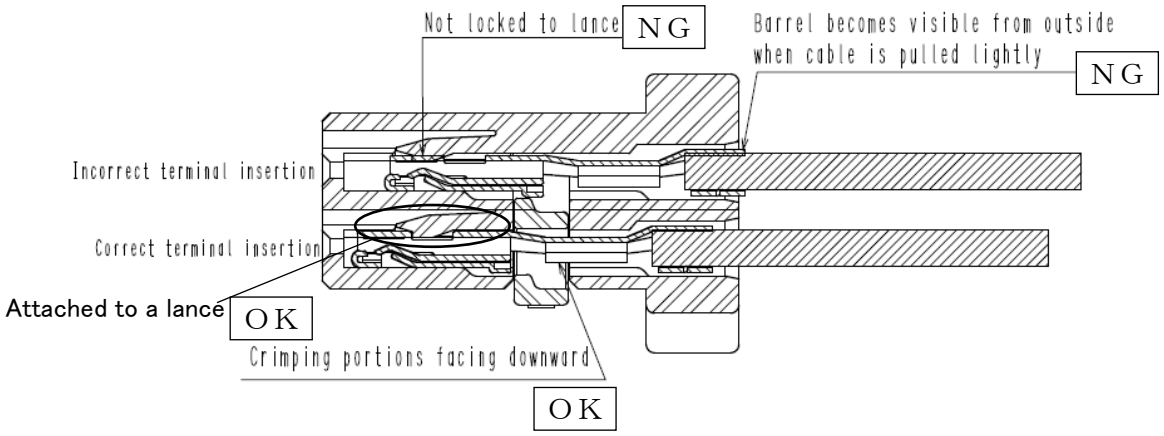
＜ Example: Reverse insertion＞



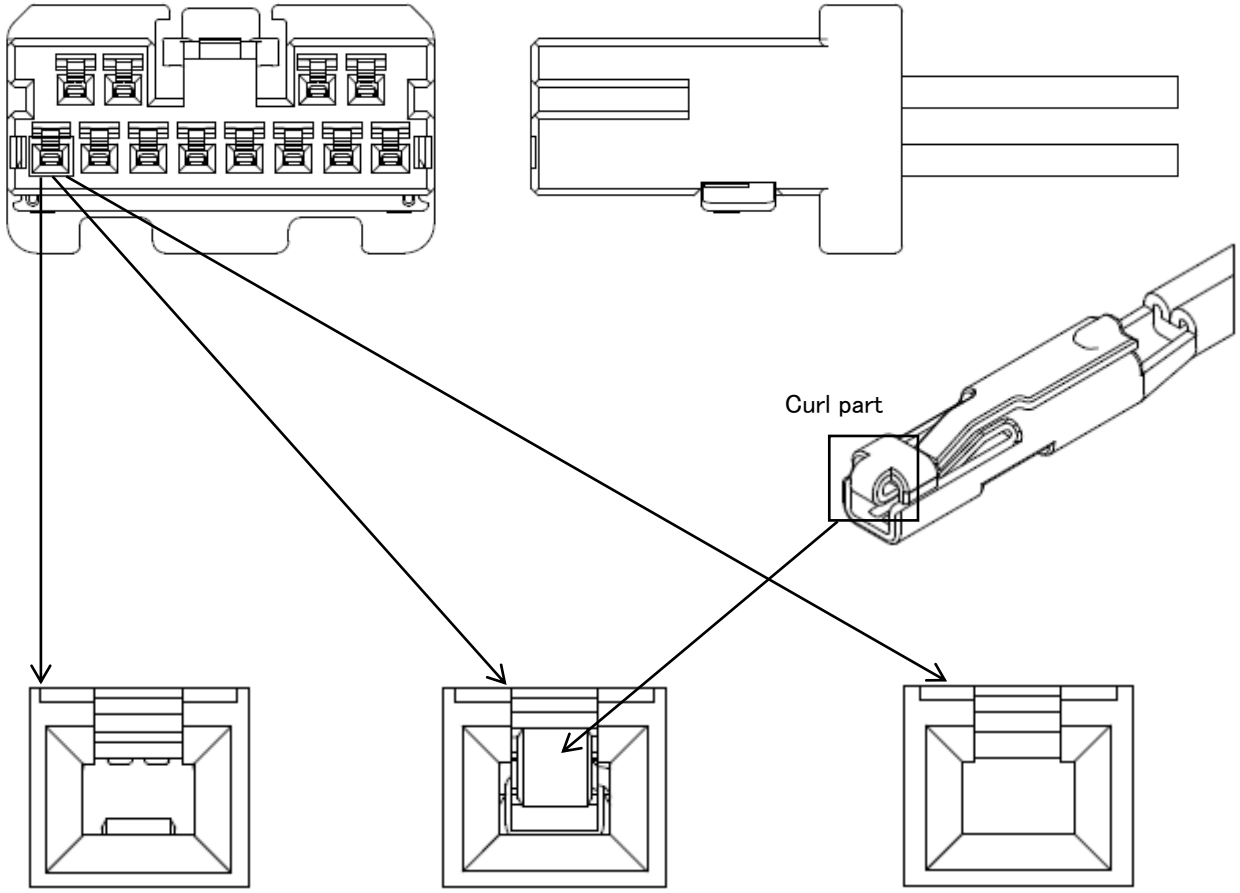
Note. If the terminal is inserted upside down, the terminal will stop at the position shown in the bottom row of the diagram above. If you apply more force to try to insert the terminal, it will be in the state shown in the upper row of the diagram above.

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＜Example: semi-insert＞



⑤After inserting the terminals, look at the connector from the mating side and confirm that the terminals are inserted correctly.



【ＯＫ】The terminal is inserted correctly. It looks like the frame of the female terminal is almost square.

【NG】The terminal is inserted upside down.
The curled part of the female terminal is visible on the lock lever side.
➡In this state, the terminal is locked inside the connector and as the terminal cannot be removed without damaging the connector, replace with new connector and terminal.
Additionally, if you try to insert the terminal in this direction, the terminal insertion force is higher than in the normal direction.

【NG】The terminal is not inserted all the way.
The female terminal is not clearly visible.
➡Insert the terminal until you can see the terminal.

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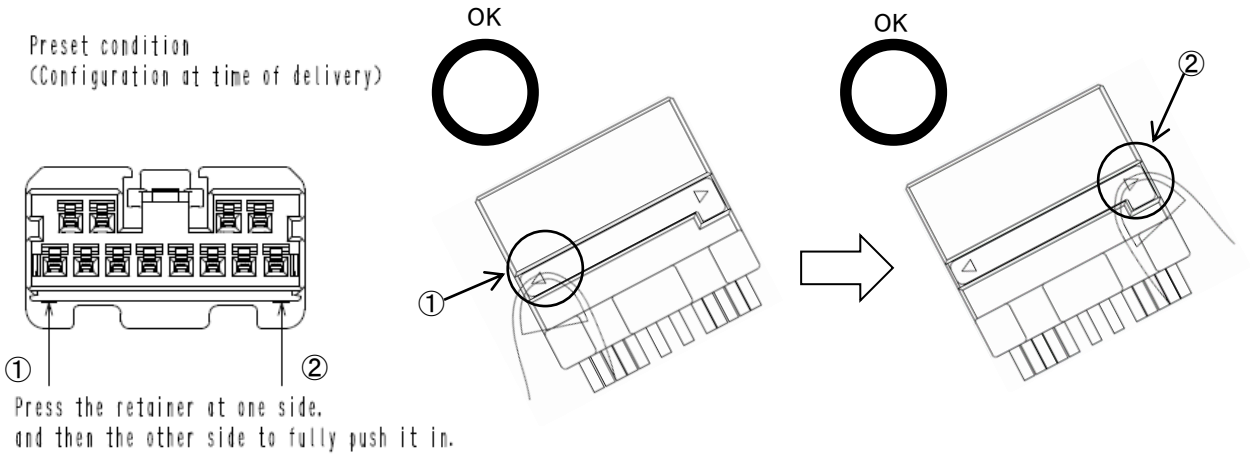
⑥Press preset retainer until a click is heard.

When setting the retainer, push in both ends with your fingernails in the order of ① to ② on each side.

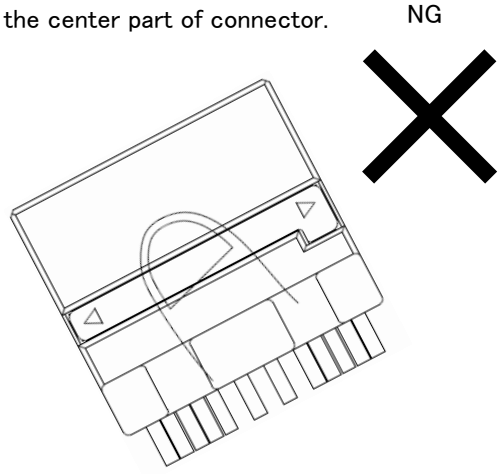
Note. Do not route the wires while the retainer is in the preset state.

Doing so may cause the terminal may be removed, or the female housing or terminal to be damaged or deformed.

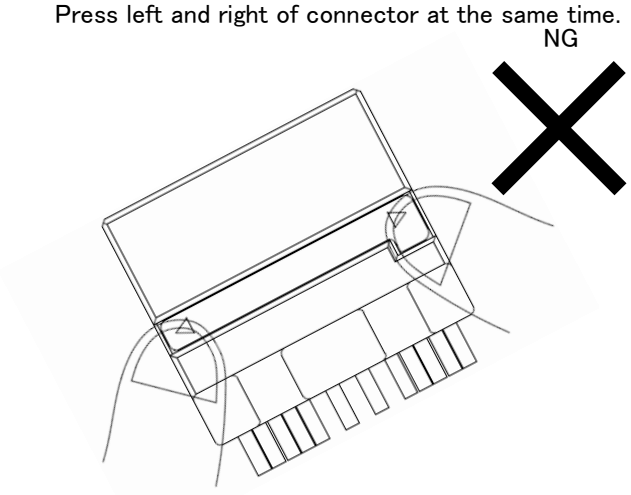
Set the retainer immediately after completing the terminal insertion.

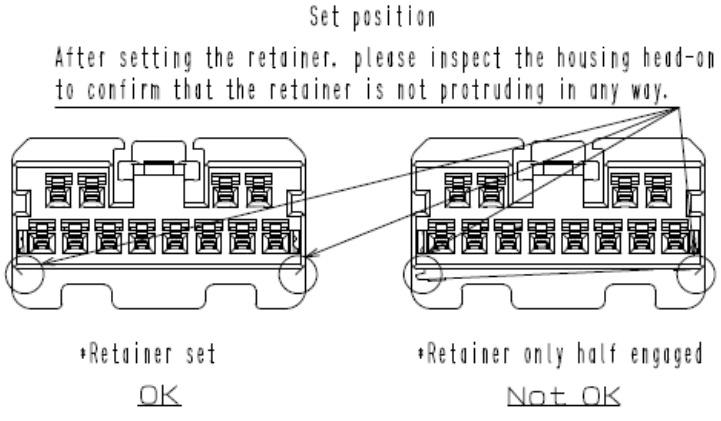


Press the center part of connector.



Press left and right of connector at the same time.

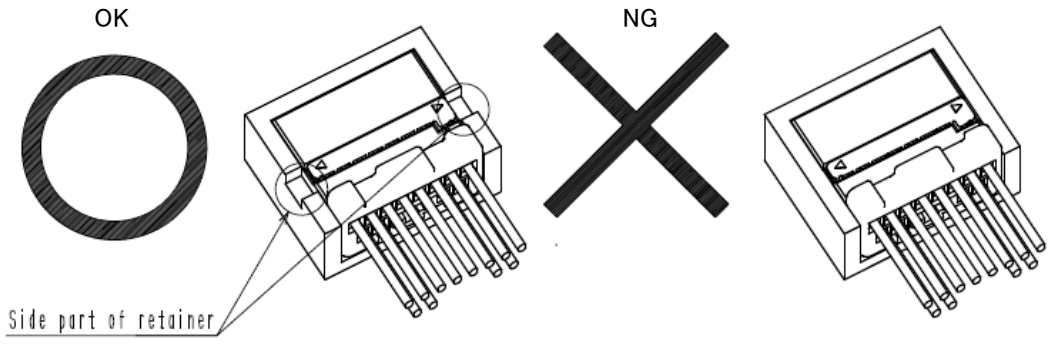




NOTE. We also have retainer set jigs available. If you need them, please contact our sales department.

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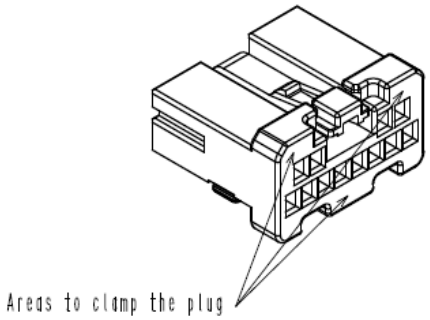
In the event that a jig will be used for setting of the retainer, please ensure that there is clearance on either side of the retainer. Using a jig that does not allow such clearance may result in damage to the female housing.



⑦Electrical test

Clamping areas of connectors

During electrical tests, the areas shown in below picture can be clamped （Example：ZE05-12DS-HU/R）



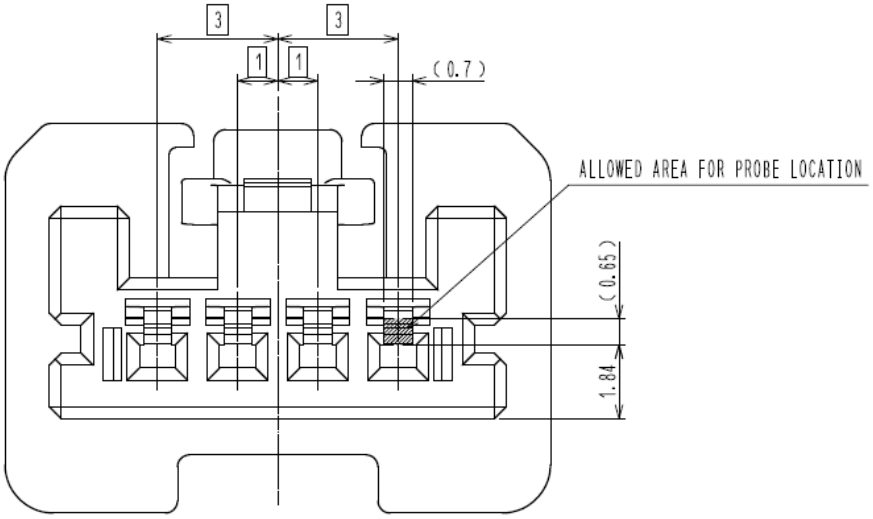
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⑧Location of test probes

The test probes should be located in front face as described below(to avoid any damage to the terminal):

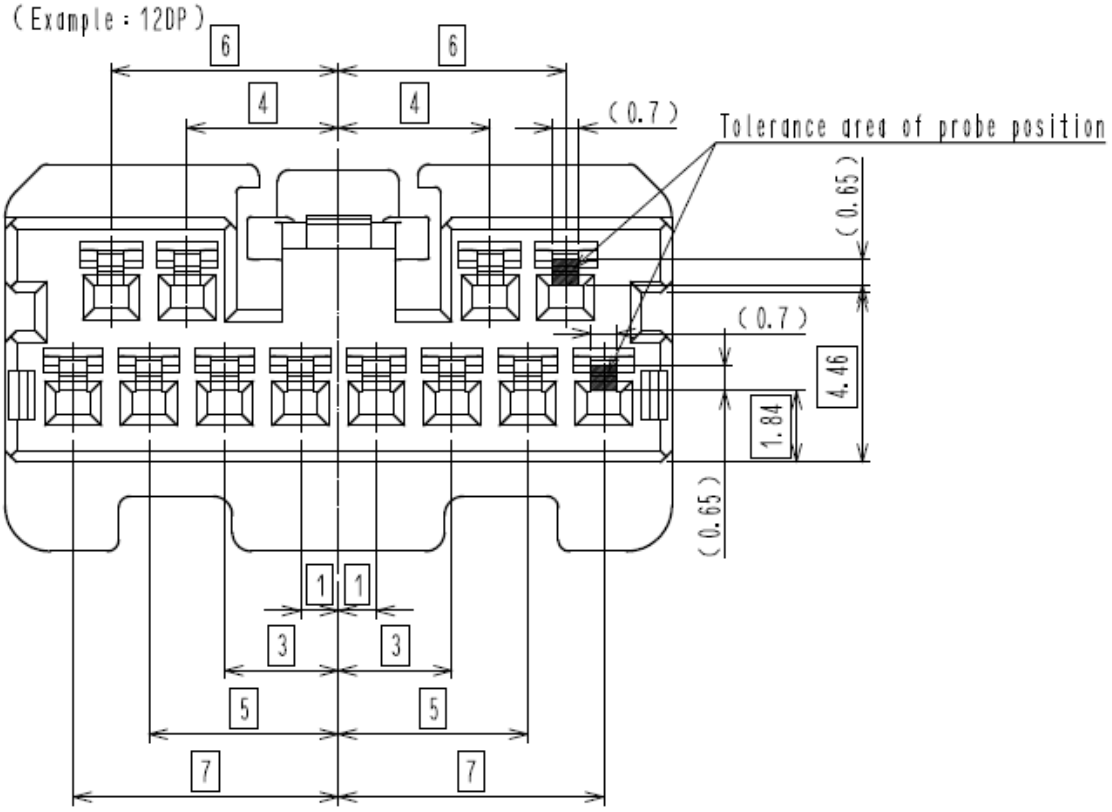
・Single row plugs:

(Example with the 4P)



・Plug double row product

(Example : 12DP)



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⑨Definition of test probe

The recommended probe should have the following characteristics:

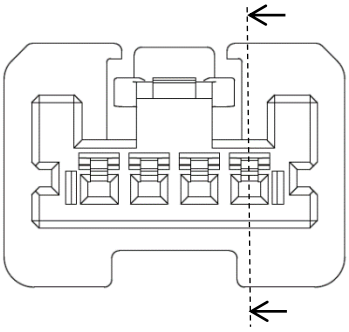
・Diameter: Φ0.5～0.6mm

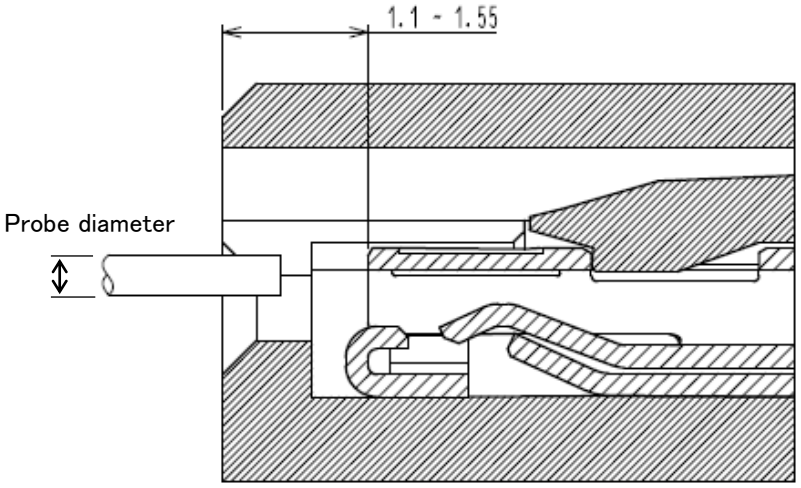
・Tip shape: flat

・Plating: Gold plated

・Spring force: 1N maximum

・Stroke: see section below





⑩Recommendations for electrical tests

・Perform test after insertion of terminals and closing of retainer.

・Avoid any deformation on housing and terminal during electrical test.

・Replace any damaged housing and terminal with a new one.

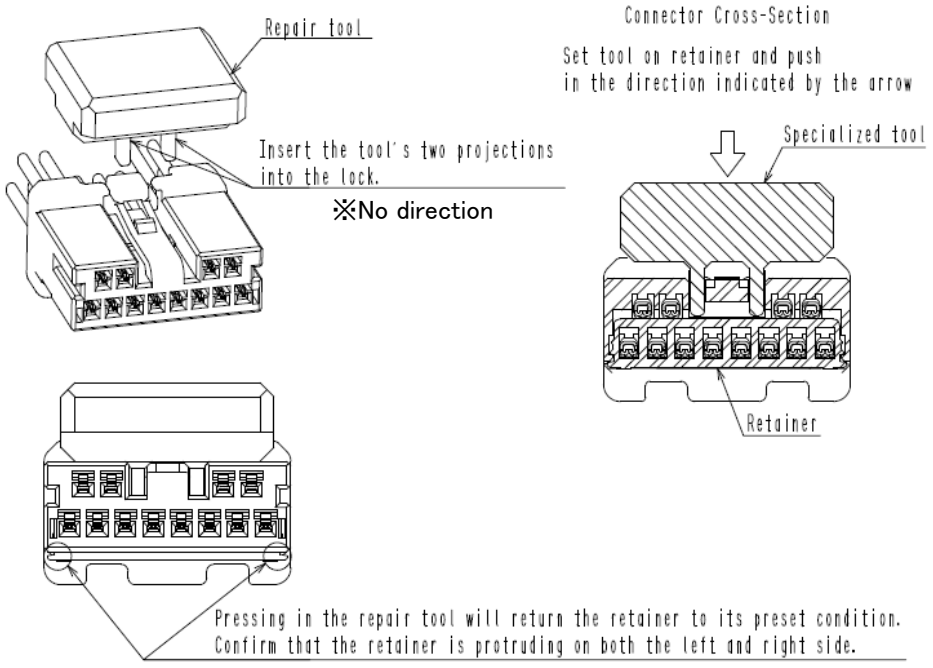
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4. REPAIR PROCESS

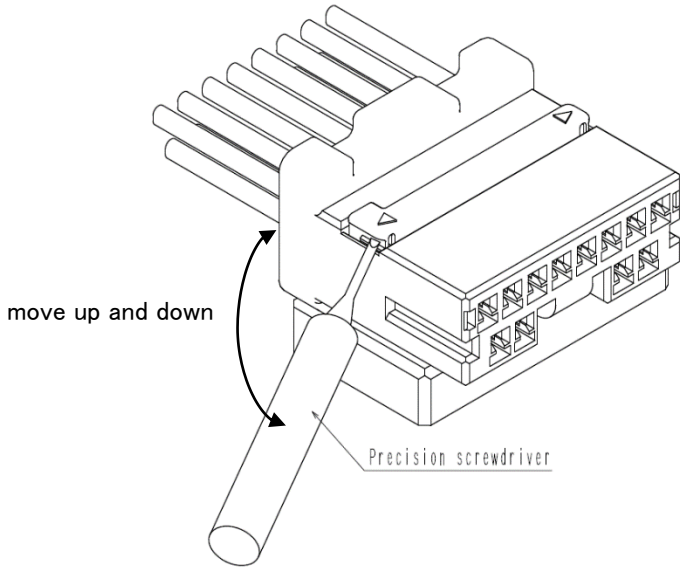
Note：Housing cannot be reused. Please use a new housing after repair.

①Using the specialized repair tool, disengage the retainer lock and return the retainer to the preset condition.

Note 1. Please refer to the following section （P.11） for details on the specialized tool.



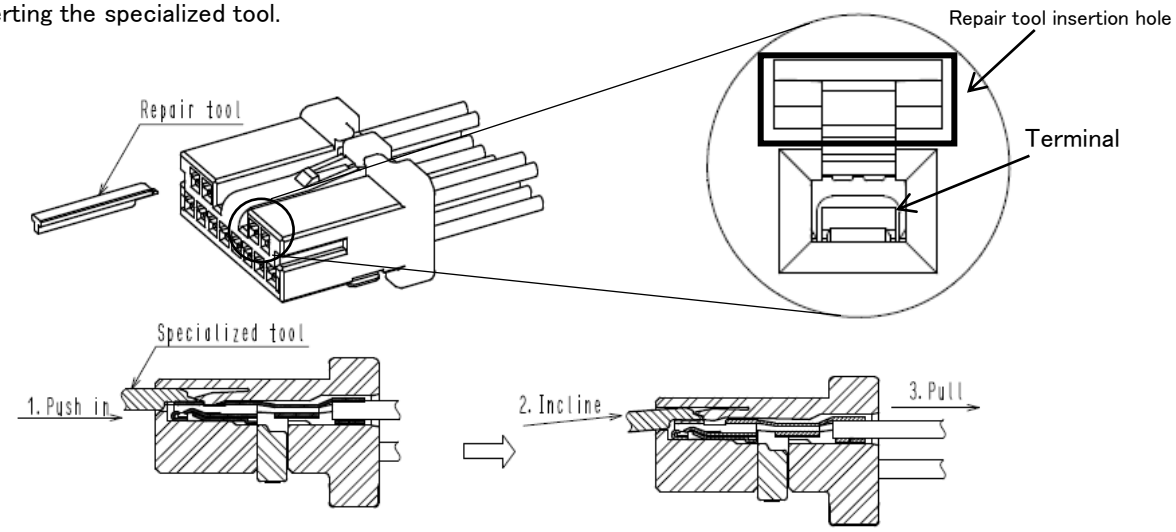
Note 2. If the retainer does not unlock even after pushing in with the specialized tool, use a precision screwdriver to push up the edge of the retainer (as shown in the figure below) slightly while pushing in with the specialized tool.



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②Insert the tool into the terminal cavity and push to the end.

After pushing in, hold the cable at a slight angle with the jig and pull out the terminal with a force of 20N or less.
If it does not come out with a force of 20N, the terminal may not be unlocked correctly, so please try again by inserting the specialized tool.



③Repair tool summary

Retainer Repair Tools - Part Number Summary

Applicable Part	Repair Tool Name	Repair Tool Part Number
ZE05-2S-HU/R	ZE05-2DC-HU/R/RE-MD	902-5144-0
ZE05-4S-HU/R		
ZE05A-4S-HU/R		
ZE05-5S-HU/R		
ZE05-8DS-HU/R	ZE05-12DC-HU/R/RE-MD	902-5143-0
ZE05A-8DS-HU/R		
ZE05-12DS-HU/R		
ZE05A-12DS-HU/R		
ZE05-16DS-HU/R		
ZE05-20DS-HU/R	ZE05-20-24DC-HU/R/RE-MD	902-5160-0
ZE05-24DS-HU/R		

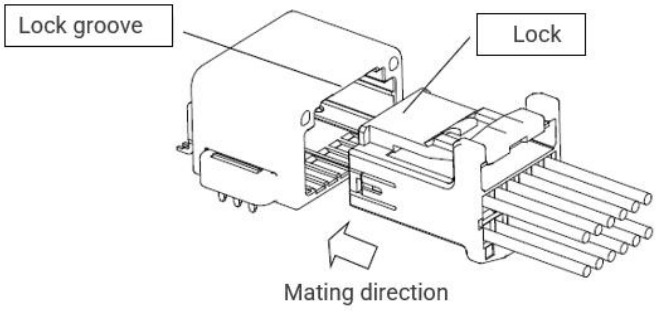
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5. Insertion and extraction procedure

※Illustrations in this section are of representative products.

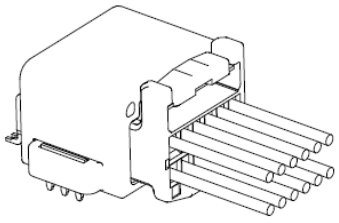
5-1. Insertion procedure

①Align the lock groove of the board side connector with the lock direction of the harness side connector when mating.



②Insert it until it locks and you hear a click.

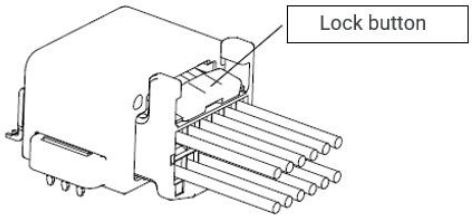
Note：After completing the work, pull the connector in the detachment direction and check that it does not come off.



5-2. Removal procedure

①While pushing the female connector all the way in the mating direction, press the lock button until the lock is released.

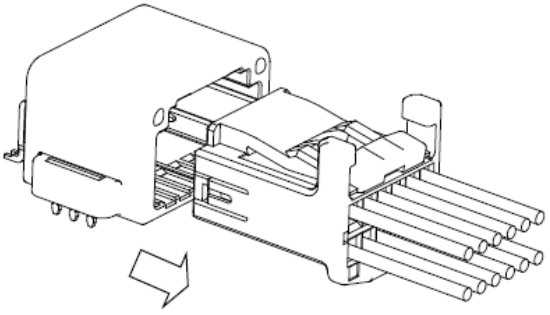
Note：Push the lock button down until it touches the housing to release the lock.



②Pull the connector straight out.

Note：If the lock is not fully unlocked, it cannot be pulled out.

If you try to pull it out by force, you may damage the housing or deform the terminal.



Pulling direction

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6. Other / Notes

1) Do not touch the terminal contact points or the interior of the barrel.
2) When handle terminals, please wear gloves in order to prevent corrosion.
3) Placing items on top of a terminal or dropping a terminal may result in shape deformities or contamination. Please handle terminals with care.
4) In the event of terminals becoming tangled, please do not forcibly pull or bend them apart, but disentangle them carefully.
5) Use caution when handling terminals so as to avoid deformation.
6) Make sure that the crimped cables do not become entangled.
When bundling or stacking cables, please prevent the terminals from being subjected to any external force.
7) Use caution to ensure that the part is not subjected to any large impacts.
8) Avoid storing in dusty areas.
9) Do not place wire harnesses on the floor.
10) Refrain from any handling that may result in terminal damage or deformation.
11) If the retainer is out of the housing, do not use either the housing or the retainer.
12) Do not use the housing if it was dropped.

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